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Population Trends and Projections

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State
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POPULATION BONDS AND PROJECTIONS

December 1988

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POPULATION TRENDS AND PROJECTIONS

Executive Summary

This technical reference document records the growth of the State's population from colonial times to 1985. In addition, the demographic characteristics, the level and distribution of income and the location of growth are examined in detail for the period 1940 to 1985. Finally, this document examines existing state-wide and sub-state population forecasts and the characteristics of the future population projected by the Department of Labor's (NJDOLE) Economic and Demographic model.

Population

New Jersey's population growth can be organized into three phases. The first phase consisted of agricultural development; first by Native Americans and then by European colonists. By the end of this period in 1830, the population of the State had increased to 373,306 persons, of which an estimated 83% lived on farms or in farming villages or towns. The next growth phase lasted from 1830 to 1910, and was characterized by urbanization, rapid population growth fed by European immigration, and the industrialization of the State. By 1910, the State's population had grown to 2,537,167 persons, of which 44% lived in the State's cities. The last phase began in 1910 and continues today. This phase is characterized by the growth of the State.

Since 1940, the State's population grew from 4,160,165 persons to an estimated 1985 population of 7,562,300 residents, an increase of 3,402,135 persons or 82%. The 1,231,453 increase between 1950 and 1960 and the 1,101,382 increase between 1960 and 1970 were the largest two decennial population gains in the history of the State. This 20 year period accounts for almost 70% of all the growth since 1940. Most of this growth was the result of persons moving into the New Jersey from other states.

The State's population has grown very little since 1970. The total population reported in the 1980 Census was 7,365,011; an increase of only 196,659 persons since 1970. The estimated population change from 1980 to 1985 is an increase of 197,289 persons. Growth since 1970 has been one of the lowest in the State's history, both in absolute numbers and also in terms of the rate of growth. Immigration virtually ceased in the 1970's and now is estimated to be more modest than during the earlier Post-War period. In addition, the fertility rate in the nation has declined, with an even larger decrease in birth recorded for New Jersey women.

The State's median age is increasing. The combination of low fertility rates, the aging of the Baby Boomers, and the lengthened life expectancy for the elderly all are contributing to this phenomenon.

The social organization of the population has changed. Since 1970, non-traditional family groupings, such as single parent and single adult households, have increased. In 1970, married couples represented 70.5% of all New Jersey households. By 1985, married couples represented only 58%

of the State's households, and only 27.9% of all households consisted of couples with children.

Incomes of New Jerseyans grew from a 1950 per capita median of \$1,918 to a median of \$11,179, by 1981. During the period 1940 to 1970, the State's residents earned about 15% more than did the nation's urban population and about 25% more than the nation's median income. When corrected for inflation over the period 1970 to 1983, the national per capita income declined while the State per capita income grew by 3.4%. However, the [^]IrH hitler of income changed. While the State tends to have a smaller percent of low income persons and a higher representation of persons with high incomes relative to the national average, the number of persons on both ends of the income scale increased. An increase in the number of elderly contributed to this pattern of income distribution, but the most significant factor appears to be the rise of non-traditional households. By 1980, a household headed by a female (without a spouse) had an income equal to only one-third that of the traditional family with both adults working. These low income problems were most pronounced among blacks and Hispanics, the same groups exhibiting the largest number of female headed households.

The ~~report~~ also investigates the location of population growth by mapping municipal populations from 1940 to 1985. This work shows that the growth patterns of today were established in the 50 's and 60's, including: the Route 1 Corridor; the Ocean/Monmouth county growth corridor; and the outer metropolitan development rings in northern and southern New Jersey.

Several other trends have been observed. Most of the State's large cities have lost population. In addition, all of the cities examined in this ~~report~~ had declining resident income levels. This finding was true for both those large cities which experienced large in-migration of minorities and those cities with small minority populations.

The growth pattern exhibited by mapping changes in municipal populations shows that most growth has been located at the edge of the areas suburbanized during the prior decade, or in the rural areas of the State. In the Northern part of the State, the development edge is rapidly approaching Pennsylvania, which could attract future growth as the commuting distance to New Jersey-based jobs decreases. Elsewhere, it is possible that increased development pressure will occur in the Central part of the State and in the Pinelands. Finally, the older suburban parts of the State are witnessing the population decline experienced by the State's cities in the 1950's.

This section of the ~~report~~ documents five statewide population forecasts, and three sub-state population forecasts, de statewide

forecasts for the year 2010 range from a low estimate of 8,124,000 persons to a high estimate of 9,709,670 residents. In general, these differences were due to alternative assumptions concerning the amount of in-migration. All of the forecasts predict that the State's rate of growth will be higher than that of the 1970 's. Also, all of the forecasts predict a slowing of the State's growth as the year 2010 approaches.

A detailed analysis of the DOL Economic Demographic. forecast was made to provide some insight into the characteristics of this future population. This forecast was selected because it is considered to contain likely and reasonable assumptions and ~~it~~^{it} is widely used by other government agencies.

Several points emerge from this analysis. First, the decline in the fertility rate is assumed to continue, and the future school age population is smaller than the approximately 1.7 million persons reported in the 1960 Census. However, once this decrease is realized by 1995, the school-aged population remains constant at about 1.5 million persons through the year 2010. The school population appears to have been stabilized by in-migration.

Second, the elderly population of the State increases, with substantial senior populations in the counties of Ocean, Bergen, Monmouth and Middlesex. If this increase in the number of elderly is coupled with a continuation of the trend to more non-traditional households, then there will be more of an income disparity among the State's residents.

Third, continued growth in the State's minority population is expected. By the year 2000, the minority population will represent 23.4% of the total State population, as compared to about 14% in 1980. That same year, a majority of the Essex county population is expected to consist of minorities.

Finally, Essex, Hudson, and Passaic counties exhibit out-migration of population in the year 2010. The amount of growth expected in the Southern part of the State is very close to the amount of growth that would result ~~from~~ a natural increase of the existing population.

CHAPTER I

Population Growth • Pre-history to 1940

Erg-History to Indeperrieree 10,500 BC to 1775

The earliest Native American sites excavated in New Jersey date from about 10,500 BC. From 800 AD to 1600 (the Late Woodland Period), settlements were concentrated in the non-coastal areas of -South Jersey, along the valley of the Delaware River, and to & lesser degree throughout the Inner Coastal Plain. Analysis of languages, recorded in the 1600 's, suggests that three linguistic groups lived in the State: the Southern Unami, in the Southern half of the State; the Northern Unami, in the Central and Western border of the State; and, the Kunsee in the Northern part of the State.

With European contact and settlement, the population of the State dramatically changed during the seventeenth and eighteenth centuries. Because both the Indians and Europeans prized the flats bordering major rivers as prime agricultural sites and as prized sites for fishing and water-borne commerce, conflict was inevitable. The result was that the

¹
Europeans displaced the Native residents of the State.

Because of this change in the State's population, the makeup of the State, and its pattern of development was dramatically altered from Native American Late Woodland settlements to one of European agricultural development interspersed with villages and towns.

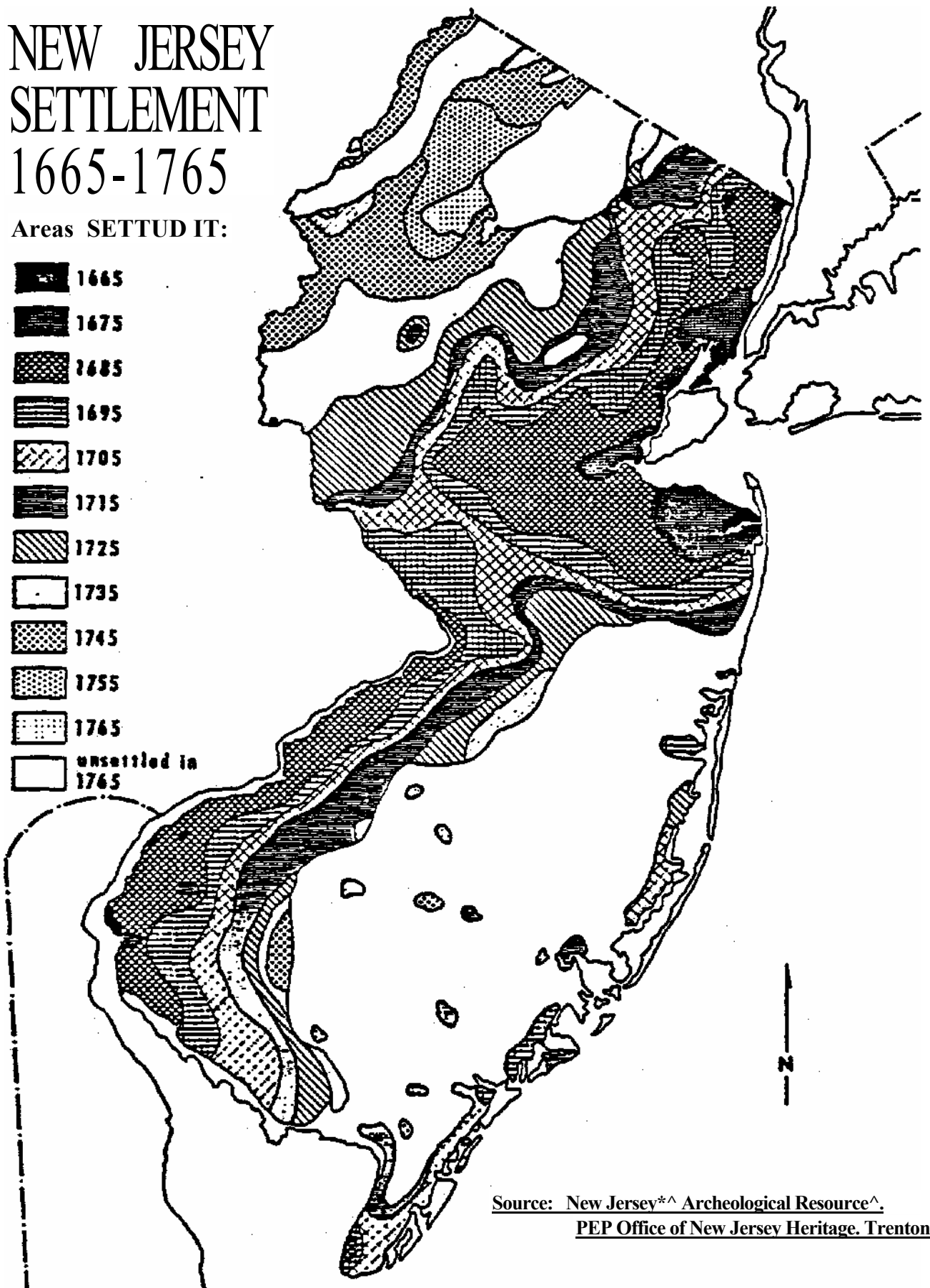
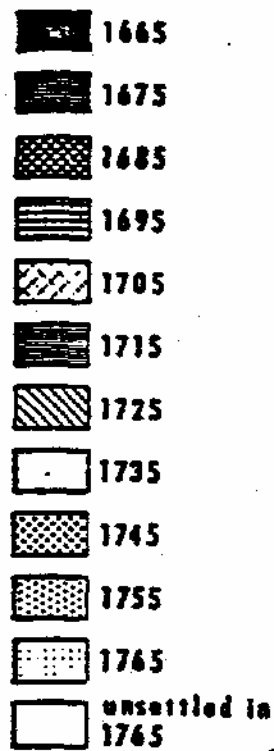
*The first European permanent settlement in the State was established by the Dutch in 1640. located at Bergen, now Jersey City, this settlement started the rapid colonization of the area then known as Old Bergen County, an area now encompassing the counties of Bergen, Passaic and Hudson.

With the beginning of English rule in 1664, and the naming of the colony of New Jersey, the population of the State grew, adding English and other immigrants to the Dutch population. Through this infusion the State became the most culturally diverse of any of the North American colonies.

Immediately after the establishment of English rule, New Englanders began to settle in the present day counties of Essex, Union, Middlesex and Monmouth, while English Quakers settled in the Southern part of the State. Migrating from settlements in Pennsylvania Swedes and Finns also moved into the Southern part of the State. later in the 17th century, the existing Dutch population in Northeastern New Jersey was augmented by Dutch farmers relocated from Long Island to the area of present day Somerset and Northern

NEW JERSEY SETTLEMENT 1665-1765

Areas SETTLED IT:



Source: New Jersey[^] Archeological Resource[^].
PEP Office of New Jersey Heritage, Trenton NJ

Monmouth Counties. At the turn of the 18th century, German and Scots-Irish Pennsylvanians relocated into the Northern part of the State, especially present day Hunterdon county and New Englanders settled Cape Hay as well as

2

other fishing communities.

By 1775, the typical development form in the State was an agricultural landscape. In many parts of the State, this development pattern was typified by the individual farmstead, with its compact arrangement of homestead, barn(s), smokehouse, hay barracks and other buildings. However, towns and villages also were developed in the areas of the State settled by New Englanders. Obese New England style compact towns consisted of clustered homes, with churches, stores, schools, all of which established a central functional element to the place. Examples were: Elizabethtown, Newark and Piscataway. The English colonial government also established administrative centers, such as Burlington, Perth Amboy, Morristown and Newton. Other towns such as Trenton and New Brunswick grew at the intersections of roadways and rivers.

Supporting the agricultural growth were water powered industries, such as grist mills, saw mills, and in the Highland area of the State, the establishment of charcoal furnace iron communities.

Early Industrial Nation 1776 - 1830

Three events characterize this period. First, manufacturing began to concentrate into the urban areas of the State; a concentration supported by the development of improved roadways focused on the State's growing towns. Second, growth in the Central part of the State was probably impacted by the destruction caused by the Revolutionary War. Finally, in all of the other counties there was slow population increase, due mainly to natural

Unlike industries of earlier periods, the product of factories built during this time were not restricted to agricultural processing of food or the production of basic materials or construction materials, such as lumber from a saw mill. This new manufacturing focused on the production of finished consumer items, such as cloth, furniture, and household items which previously had to be imported or produced at home. Much of this manufacturing was centered in towns, which later developed into cities. Newark grew as a manufacturing town. Paterson was founded in 1792 as a planned manufacturing town.

-- Surprisingly, the development of toll roads. During the 18th century, the road system consisted of private lanes or 'Driftways', some larger roads, but few major commercial roads. During the

first quarter of the 19th century, major new 'turnpikes' were constructed, such as the "Straight Line" from Trenton to New Brunswick, now called

Route 1.

By 1790, the official census of the United States put the population of the State at 184,139 persons. Over the next 40 years this number increased to 373,306, principally through natural increase* During this time, the National population increased by approximately 30 percent every decade. Growth in the Northeast region started in the 30 percent per decade range and then declined to the mid-twenty percent per annum range. During this period, the State's decennial rate of growth was mostly in the

Industrialization and the Growth of Cities 1630 - 1910

Four major factors combined to dynamically alter the State's and character during this period. The steam engine was imported and improved, freeing industries from river side locations and increasing mechanical output. The State's transportation system was remade to accommodate commercial traffic. First, canals were dug, then rail lines were laid and trains soon superseded the carrying capacity of the canals. A new fuel technology powered the industrial growth and allowed it to concentrate in cities. Prior to the development of improved flues and grates, which allowed hard coal to be burned, the fuel of choice was wood or charcoal. With the State's abundance of forests, trees fueled the glass and iron industries of the 18th century and the early 19th century. However, because large amounts of these fuels were needed, industries of this period were remotely located in areas of great woodlands. Coal, cheaply transported by canal boats and rail cars, allowed factories to locate in areas of large employee pools and to grow in size. Canals, then railheads, focused on the State's cities, allowing urban growth to accelerate. The final factor was increased immigration, to provide the workers,

Before 1830, the Nation's population increased at a rate of between 32.7 and 36.4 percent per decade. During the same time New Jersey's increases were ranging between 14.7 and 16.4 per decade. After this industrial blooming, the State's growth rate generally ~~exceeded~~ both the national and the regional growth rates. Between 1830 and 1910 the State's population grew from 320,823 persons to a 1910 total of 2,537,167 people; an increase of 691 percent compared to the National growth rate of 617

During this period, the face of the State changed in a dramatic way* The rural, agricultural small towns and villages that were the development

forms of the 18th century were replaced by the developing industrial cities. The urban population increased 17 percent of the State population to almost 44 percent, during this period. At the same time, the rural areas of the State (including modern day Hunterdon, Sussex and Warren counties experienced a decrease in population.

By 1865, Jersey City, Newark, Paterson, and Trenton were transformed by businesses such as the Roebling works, Rogers locomotive, P. Ballantine

& Sons and the Dixon Crucible Company. Growth was particularly notifiable in the urbanizing counties of Essex and Hudson Counties after the year 1840. After the Civil War, rapid urban growth also occurred in Mercer and Union Counties*

Table 1-1
URBAN GROWTH OF SELECTED CITIES
1850 TO 1910

	1840	1860	1880	1910
Camden	3,371	14,358	41,659	94,538
Elizabeth	4,181	11,567	28,229	73,409
Jersey City	3,072	29,226	120,722	267,779
Newark	17,290	71,941	136,508	347,469
Paterson	7,596	19,588	51,031	125,600
Trenton	4,035	17,228	29,910	96,815

Source: US Census of Population

Toward the end of this period, the State again experienced a shift in industrial technology. Iron was replaced by steel. The chemical industry and then the infant electronic industry grew to maturity in New Jersey.

Sub-urbanization and the Depression 1910-1940

Due to warfare in Europe and immigration restrictions, population growth in the Nation during the period 1910 to 1930 was less vigorous than that experienced during the latter half of the 19th century. New Jersey, however, outperformed the U.S. and the Northeast in each of the decennial periods. New Jersey growth was between 23 and 33 percent during this period, while National growth ranged between 7 and 16 percent, and regional growth was between 4.5 and 16 percent.

Table 1-2

New Jersey Population Compared with US Population					
Period	US Pop	New Jersey Pop	US Growth	N.J. Growth	Northeast Growth
1790 - 1800	5,308,483	211,149	35.1%	14.7%	33.9%
1800 - 1810	7,239,881	245,562	36.4%	16.3%	32.3%
1810 - 1820	9,638,453	277,575	33.1%	13.0%	25.0%
1820 - 1830	12,866,020	320,823	33.5%	15.6%	27.1%
1830 - 1840	17,069,453	373,306	32.7%	16.4%	22.0%
1840 - 1850	23,191,876	489,555	35.9%	31.1%	27.6%
1850 - 1860	31,443,321	672,035	35.6%	37.3%	22.8%
1860 - 1870	38,558,371	906,096	22.6%	34.8%	16.1%
1870 - 1880	50,189,209	1,131,116	30.2%	24.8%	18.0%
1880 - 1890	62,979,766	1,444,933	25.5%	27.7%	20.0%
1890 - 1900	76,212,168	1,883,669	21.0%	30.4%	20.9%
1900 - 1910	92,228,496	2,537,167	21.0%	34.7%	22.9%
1910 - 1920	106,021,537	3,155,900	15.0%	24.4%	14.7%
1920 - 1930	123,202,624	4,041,334	16.2%	28.1%	16.1%
1930 - 1940	132,164,569	4,160,165	7.3%	2.9%	4.5%
1940 - 1950	151,325,798	4,835,329	14.5%	16.2%	9.7%
1950 - 1960	179,323,175	6,066,782	18.5%	25.5%	13.2%
1960 - 1970	203,302,031	7,168,164	13.4%	18.2%	9.8%
1970 - 1980	226,545,805	7,364,823	11.4%	2.7%	0.1%

Source: New Jersey Population Trends 1790-1980 New Jersey Department of Labor Division of Planning and Research, June 1984

In terms of the development form of the State, this period was marked by the emergence of the suburb. Early suburbs were located along commuter rail or trolley service. With the development of the affordable automobile, and related improvements to the State's road system, development of the early auto-dependent suburbs took hold with such developments as Radburn. In particular suburban growth of this period was most i&table in the Northeastern part of the State.

However, the State's and the Nation's population growth slowed abruptly with the onset of the Great Depression in 1929. During the depression the national population growth rate dropped from a decennial rate of 16.2% to 7.3%, while the State's growth rate grew by only 2.9%; its lowest rate up to that

After the depression and the end of World War II, the economic vitality of the State returned. The demographic changes that occurred during this time are described in the next

CHAPTERH

Population Changes 1940 to 1970

Population Growth

During the years following the depression and iqp to 1970, the State's population grew by 3,007,165 persons; an increase of over 72% compared to the 1940 base population. Table 2-1 presents the growth for each decade, as well as the percentage increase in each decade.

Table 2-1
DECENNIAL GROWTH 1940 TO 1970

Period	Total Population	<u>Increase from prior Decade</u>	
		Number	Percent
1940	4,160,165		
1950	4,835,329	675,165	16.2%
1960	6,066,782	1,231,453	25.5%
1970	7,168,164	1,101,382	18.2%

Source: US Census 1950, 1960, 1970

The State's biggest population gain was recorded during the decade 1950 to 1960. Not only was the population increase the largest in the State's history, but the rate of growth was also substantial, throughout much of the State's history, a growth rate of better than 20% was the norm. In the 1950's, growth was caused by the in-migration of Americans moving into New Jersey from other states, rather than by immigration from abroad.

Characteristics of the Changed

Age Cohorts

Several observations can be made by comparing the age cohort populations reported for each of the Censes (See Table 2-2). In general, it can be seen that the number of persons 75 years or older appears to be increasing. In the 1950 population, this group of seniors represented 2.47% of the total population. In 1960 this population grew to represent 2.88% of the total and by 1970 the total percent was almost 3%.

**Table 2-2
POPULATION AGE COHORTS 1950, 1960 AND 1970**

Age cohort	Persons in the Total Population					
	1950		1960		1970	
	number	% total	number	% total	number	% total
<5	458,906	9.5	642,197	10.6	589,226	8.2
5 to 9	371,826	7.7	582,212	9.6	692,648	9.7
10 to 14	290,544	6.0	524,380	8.6	710,409	9.9
15 to 19	295,859	6.1	396,363	6.5	611,831	8.5
20 to 24	350,403	7.2	321,054	5.3	509,198	7.1
25 to 29	409,890	8.5	362,373	6.0	463,164	6.5
30 to 34	409,434	8.5	435,080	7.2	403,475	5.6
35 to 39	393,917	8.1	472,429	7.8	413,929	5.8
40 to 44	357,760	7.4	446,139	7.4	465,492	6.5
45 to 49	318,504	6.6	406,721	6.7	477,978	6.7
50 to 54	305,235	6.3	350,531	5.8	439,103	6.1
55 to 59	263,516	5.4	304,112	5.0	380,677	5.3
60 to 64	215,546	4.5	262,777	4.3	314,045	4.4
65 to 69	164,921	3.4	222,457	3.7	245,757	3.4
70 to 74	109,441	2.3	163,149	2.7	194,112	2.7
75 to 84	101,632	2.1	146,832	2.4	209,210	2.9
85 and older	17,995	.4	27,976	.5	47,910	.7
TOTAL						
POPULATION	4,835,329		6,060,782		7,168,164	

Source: US Census 1950, 1960, 1970

Between 1950 and 1960, the number of children under 10 years of age grew by almost 50%, from a 1950 total of 830,732, to a total of 1,224,409 children in 1960. These children increased their respective share of the State's total population from 17.2% in 1950 to 20.2% in 1960. This growth in the number and in the percentage of this population is referred to as the "Baby Boon", a post-war fertility explosion generally defined as beginning in the mid-1940's and ending in the mid-1960's. During the 1960's the tendency to bear children seems to have decreased. For example by 1969, the reporting year of the 1970 Census, while the number of children aged less than 10 years old increased to 1,281,544, the percentage of the total population represented by these children decreased to 17.9%. This decrease occurred, despite the fact that the population of the State increased by over 1 million persons. This decline in the number of children marked the end of the "Baby Boon" and began an era referred to as the "Baby Bust".

Other population shifts can be observed by taking an age cohort and subtracting from this number the total population of the cohort 10 years younger represented in the previous Census (See Table 2*3). For example, by subtracting the age cohort 10 to 14 in 1970 Census from the age cohort less

than 5 in the 1960 Census, one can determine if the number of persons in this age group increased, stayed the same or declined. In a static society, a slight decline in the younger age groups and a larger decline in

Table 2-3
COMPARISON OF AGE GROUPINGS

age cohort	Change from Previous Decade	
	1960-1950	1970-1960
10 to 14	65,474	68,212
14 to 19	24,537	29,619
20 to 24	30,510	-15,182
25 to 29	66,514	66,801
30 to 34	84,677	82,421
35 to 39	62,539	51,556
40 to 44	36,705	30,412
45 to 49	12,804	5,549
50 to 54	-7,229	-7,036
55 to 59	-14,392	-26,044
60 to 64	-42,458	-36,486
65 to 69	-41,059	-58,355
70 to 74	-52,390	-68,665

Source: US Census 1950, 1960 and 1970

the older matters of the population, due to deaths, would be normal.

All of the age groups between 10 and 49 showed real increases during all of the 1960's (See Table 2-4). The decline in the age cohort 20 to 24 during the 1960's has been attributed to persons attending out-of-State colleges, and to persons in the military (State of New Jersey, Census Trends, 1970-1980, p.8). Most prominent of the age group increases were those registered in the age group 10 to 14 and in the groupings 25 to 39. These increases suggest that many of the in-migrants to New Jersey were families with children.

Marital Status

The most striking feature in Table 2-4 is the change in the marriage tendency between that reported in the 1940 Census and that recorded in the other reports. In 1939, the recorded year for the 1940 Census, over 30% of the total population was single. By the end of the 1940's and thereafter for the next 20 years, the percent of single persons never rises above 25% (for both men and women combined). * This increase in the percentage of married persons might also account for the baby boom beginning to be reported in the 1950 Census.

Table 2-4
MARITAL STATUS, 1940, 1950, 1960 AND 1970
PERSONS AGE 14 AND OLDER

	1940		1950	
	Males	Females	Males	Females
total persons	1,660,146	1,694,913	1,838,965	1,931,114
number single	597,917	513,520	484,286	412,255
number married	982,022	979,960	1,251,995	1,258,965
% married	59%	58%	68%	68%
% single	36%	30%	26%	21%

	1960		1970	
	Males	Females	Males	Females
total persons	2,125,478	2,278,413	2,521,425	2,792,336
number single	519,170	442,593	709,569	639,523
number married	1,497,601	1,511,112	1,638,892	1,636,445
% married	70%	66%	65%	59%
% single	24%	19%	28%	23%

Source: US Census 1950, 1960 and 1970

During the period 1950 through the 1960's, the rate of marriage remained relatively constant. A noticeable change occurs in the 1970 Census, when the percentage of married women declined compared to that reported in the 1960 and 1950 Census.

Households

The Census defines households as "all the persons who occupy a house, an apartment or other group of rooms, or a room, that constitutes a dwelling unit". Analysis of households and householders is important to determine the social groups people prefer, and to determine the shelter requirements of the population.

Table 2-5
HOUSEHOLD CHARACTERISTICS 1950, 1960 AND 1970

	1950	1960	1970
total population	4,835,329	6,066,782	7,168,164
pop. in households	4,639,505	5,912,199	7,021,296
households	1,350,245	1,806,295	2,218,182
persons/household	3.44	3.27	3.17
Group Quarters	176,930	154,583	146,868
Male Head Households	1,158,785	1,518,764	1,775,753
Female Head Households	191,460	287,675	448,125
% Female Head HH/total HH	14.2%	15.9%	20.2%

Source: US Census 1950, 1960, 1970

The number of persons living in New Jersey households also declined during the period shown in Table 2-5. Ob a large degree, this decrease in the number of persons living in households seems to be due to the increasing number of unmarried persons. For example, although the percent of single men changed little from 1960 (24.4%) to 1970 (28.1%), the actual increase between these years ~~iepitualB~~ a numerical increase of almost 200,000 more single men in 1970. Single females also increased both in terms of their numbers and in terms of the percentage of the total female population that was reported as single. (The Census ~~reported~~ incidence of divorce, widowhood and separated persons suggests little difference for the reported years).

When increasing numbers of single persons head households, more houses are needed to shelter the sane number of people. For example, if population "A" had 10 persons in 1960, and from this group six were married, and of the remaining single persons half lived at hone; then the number of heads of households would be 5 (3 married heads of households and 2 single person heads of households). If on the other hand, the same population had six married persons (three married pairs) and all of the single persons headed households, then a total of 7 dwelling units would be required for the same 10 person population.

In table 2-6 the ratio of persons heading households IB represented as a percent of the total persons in the age cohort. If the percent of heads of households increases, it suggests that more single persons in the population are heading households. Unfortunately, only household data for 1960 and 1970 are displayed, since comparable data for 1950 or 1940 were not available.

Table 2-6
RATIO OF HEADS OF HOUSEHOLDS TO TOTAL POPULATION BY AGE GROUPING

age groupings	1960 Census			1970 Census		
	Heads HH	Total pop	%HH	Heads HH	Total Pop	%HH
14 to 24	58,986	717,417	8.2	107,387	1,121,029	9.6
25 to 34	320,605	797,453	40.2	385,421	866,639	44.4
35 to 44	434,591	918,568	47.3	442,499	879,421	50.3
45 to 64	705,177	1,324,141	53.3	883,262	1,611,803	54.8
65 and older	287,080	560,414	51.2	399,613	696,989	57.3

Source: US Census 1970 and 1960

data in Table 2-5 suggest that the household forming habits of New Jerseyans during the 1950's and the 1960's changed very little. Table 2-6 however, demonstrates every age grouping was more likely to have their own calling unit in 1970 than in 1960. This finding is particularly true for seniors; their householder ratio increased from 51% to 57% in this period.

Race

In 1940 there were 226,973 black persons living in the State. This population represented 5.5% of the State's total population. By 1970, the State's black population had increased its share of total population to

10.7%. (See Table 2-7)

Table 2-7
BLACK POPULATION IN NEW JERSEY 1940 TO 1970

	<u>Black Population</u>	<u>Total Population</u>	<u>% of Total Population</u>
1940	226,973	4,160,165	5.5%
1950	318,565	4,835,329	6.6%
1960	514,875	6,066,782	8.5%
1970	770,292	7,168,164	10.7%

Source: US Census 1970, 1960, 1950 and 1940

Between 1940 and 1950 the black population increased by 91,592 persons for a decennial rate of increase of 40.4%. In the decade 1950 to 1960, the population increased by 196,310 or 61.6%, and in the 1960's the rate of increase was 49.6%, for a ten year increase of 255,417 persons.

Income

Two analyses of the relative income of New Jerseyans have been performed using the data provided in the Census of Population's table titled "Income in (year) of Persons by Race and Sex". The first analysis examines the median income of State, national and national urban persons for the years 1950, 1960 and 1970. The second analysis examines the distribution of income in the State, National and National Urban

1. It is difficult to compare 1970 data with 1980 data for certain race groups. For example, a large number of Spanish origin persons reported their race as "white" in the 1970 census; and a much larger percentage declared themselves a "other" in 1980. (State of New Jersey Census Erereis, 1970-1980, p. 17-37)

²
population.

Table 2-8
MEDIAN INCOMES FOR THE YEARS 1950, 1960 AND 1970

	<u>1950</u>	<u>1960</u>	<u>1970</u>
Median Incomes			
National	\$ 1,918	\$ 2,798	\$ 4,108
National Urban	2,162	3,123	4,340
State	2,389	3,603	5,030
 State/National	 1.25%	 1.29%	 1.22%
State/ National Urban	1.11%	1.15%	1.16%

³
Source: US Census 1950, 1960 and 1970

Median incomes of New Jersey residents were higher than were the National or the National Urban median incomes in 1950, 1960 and 1970. In

2. Table 2-8 displays the median income of all persons with income, aged 14 or older, as reported in the 1950, 1960 and 1970 Census. In all cases, the incomes are reported in nominal dollars, which means that incomes between the Census cannot be compared; but all reported incomes for the same year are comparable. In addition to displaying the actual median incomes for each Census year, the State median is compared to both the National median and the National Urban median incomes. Suitable data for 1940, which would allow 1940 incomes to be included in this analysis, was not available.
3. The second analysis of income examines the distribution of earnings in the State's population. Two benchmarks are used in this analysis: persons earning less than the displayed median income; and, persons earning more than twice the displayed median income. It should be noted that the data reported in the census does not allow for an exact analysis of those persons earning less than median or of those persons earning more than twice the median income, since the reported income categories, which consisted of income range groupings, did not report the specific numbers needed for this comparison. Therefore, for the 1950 Census, all persons with incomes less than \$2,000 were assumed to be earning less than the median, and those with incomes of \$4,000 or more were assumed to be earning more than two times the median. The benchmarks used in the 1960 Census were \$3,000 for the median and \$6,000 for two times the median, while in 1970 those earning less than \$4,000 were categorized as earning less than the median and those earning \$7,000 or more were identified as making two or more times the median income.

general, New Jersey's income advantage has been preserved during the 30 years in Table 2-9. New Jersey's median income more closely approximates the national urban median income; but this might be objected in that such of New Jersey is categorized as "urban" by the Census.

"Table 2-9
PERCENT OF PERSONS EARNING LESS THAN THE NATIONAL MEDIAN INCOME AND
PERCENT EARNING MORE THAN TWICE THE NATIONAL MEDIAN INCOME

Census year	National	National Urban	State
1950			
% income less than \$2000	51%	47%	40%
% income greater than \$4000	13%	15%	18%
1960			
% income less than \$3000	47%	48%	42%
% income greater than \$6000	17%	19%	23%
1970			
% income less than \$4000	49%	48%	43%
% income greater than \$7000	30%	32%	37%

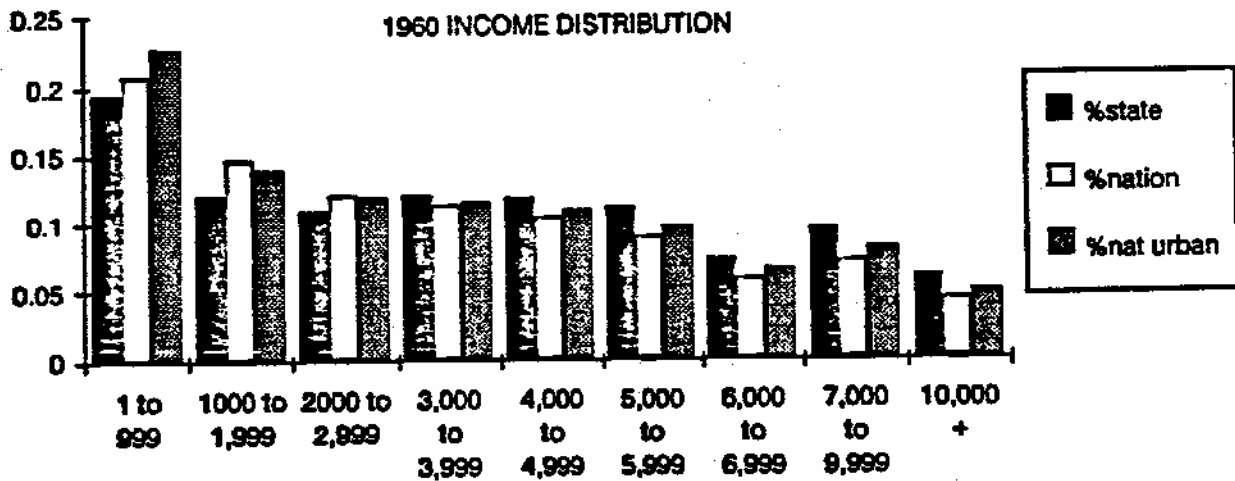
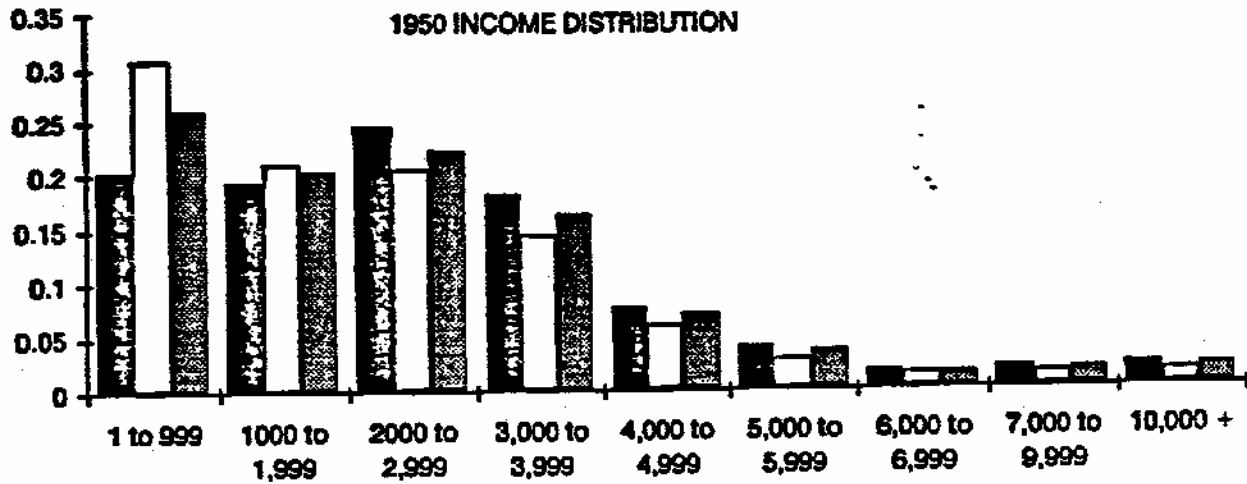
Source: US Census 1950, 1960 and 1970

Chart 2-1 shows the distribution of incomes in the State, national and national urban populations of income earners aged 14 or older. The analysis consists of three bar charts which illustrate the percentage of income earners in each of the income groupings reported in the Census.

In 1950 most of the population earned an income at/or near the median figure and the percent of persons earning higher incomes decreased rapidly. In 1960, although there was also a great deal of mid-range income distribution, there was more income diversity and more persons at the higher end of the income spectrum. By 1970, there was a greater disparity in income distribution (i.e., high percentages of persons at the lower end and at the higher end of the scale). Also, over time, more persons in the State and Nation earned higher incomes. It also is evident that the State's income distribution curves tend to pattern the National distribution of incomes.

New Jersey exhibits slightly fewer persons in the lowest income categories and a higher percent of persons in the higher income categories, than is displayed for either the Nation or by the urban areas of the Nation. This observation also was supported by the analysis of the percent of persons with respect to the median income.

Chart 2-1



Source: US Census 1950, 1960, and 1970

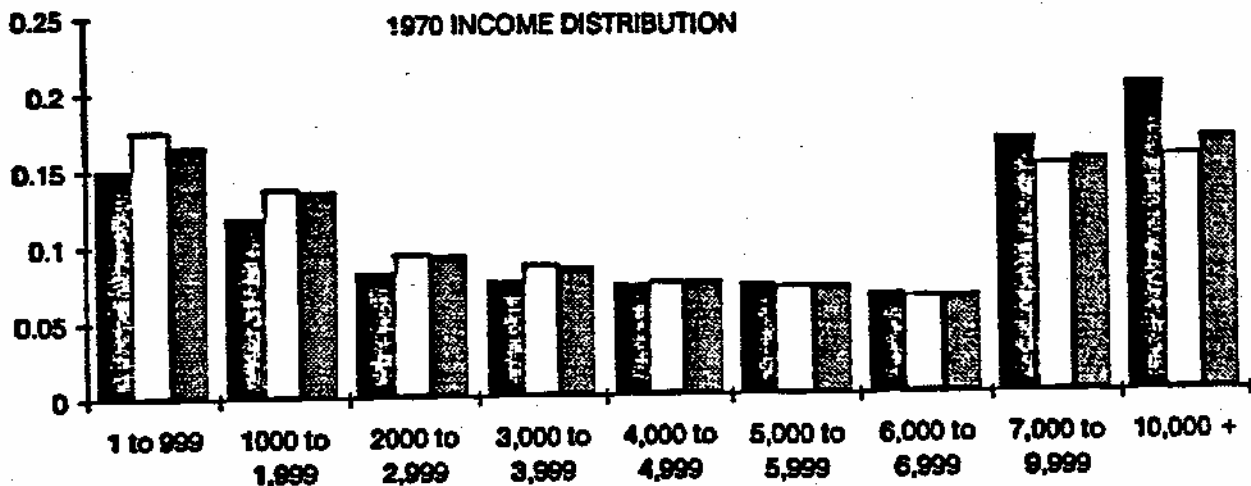


Table 2-10 includes data, from the tB Censuses of 1950, 1960 and 1970, displaying the years of friiwrffnn completed for the population aged 25 or older*. Two sets of data have teen displayed for each of the Census years. First, the number of adults in the State aged 25 and older, and then the number for each education category and the pereent of the 'total adults that number represents. The second set of data displays the comparable data for the Nation as a whole.

17

Table 2-10
YEARS OF EDUCATION COMPLETED FOR ADULTS AGED 25 OR OLDER

Census Year	Total Adults	Years of School Completed		
		0 years	12 years	16 years
<u>1940</u>				
State	2,533,379	109,563	339,835	127,436
% of State		3.7%	13.4%	6.7%
Nation	74,775,836	2,799,923	10,551,680	3,407,331
% of Nation		3.7%	14.1%	4.6%
<u>1950</u>				
State	3,044,080	78,965	653,345	205,715
		2.6%	21.5%	6.8%
Nation	87,483,480	2,184,160	17,663,545	5,284,580
% of Nation		2.5%	20.2%	6.0%
<u>1960</u>				
State	3,599,856	89,618	885,128	302,876
% of State		2.5%	25.0%	8.4%
Nation	99,438,084	2,274,813	24,455,484	7,625,273
% of Nation		2.3%	25.0%	7.7%
<u>1970</u>				
State	4,056,606	66,307	1,292,000	282,862
% of State		1.6%	31.8%	11.8%
Nation	109,899,359	1,767,753	34,158,051	6,657,604
% of Nation		1.6%	31.1%	10.7%

Source: US Census 1950, 1960 and 1970

The adult population of the State and the Nation attended and completed more schooling with the passage of each decade. The educational achievements of the New Jersey population replicated the National achievement levels. The clearest index of this is the fact that the State and National median years of ^{^yfti^}n are virtually identical for each of the years reported. Only with ~~respect~~ to the percent of college graduates does the State out-perform the Nation. However, while the State seems to have a larger ~~percent~~ of the population completing college- than the Nation as a whole, the difference is slight.

location of pppVUti^ Growth

Growth 1940 to 1950

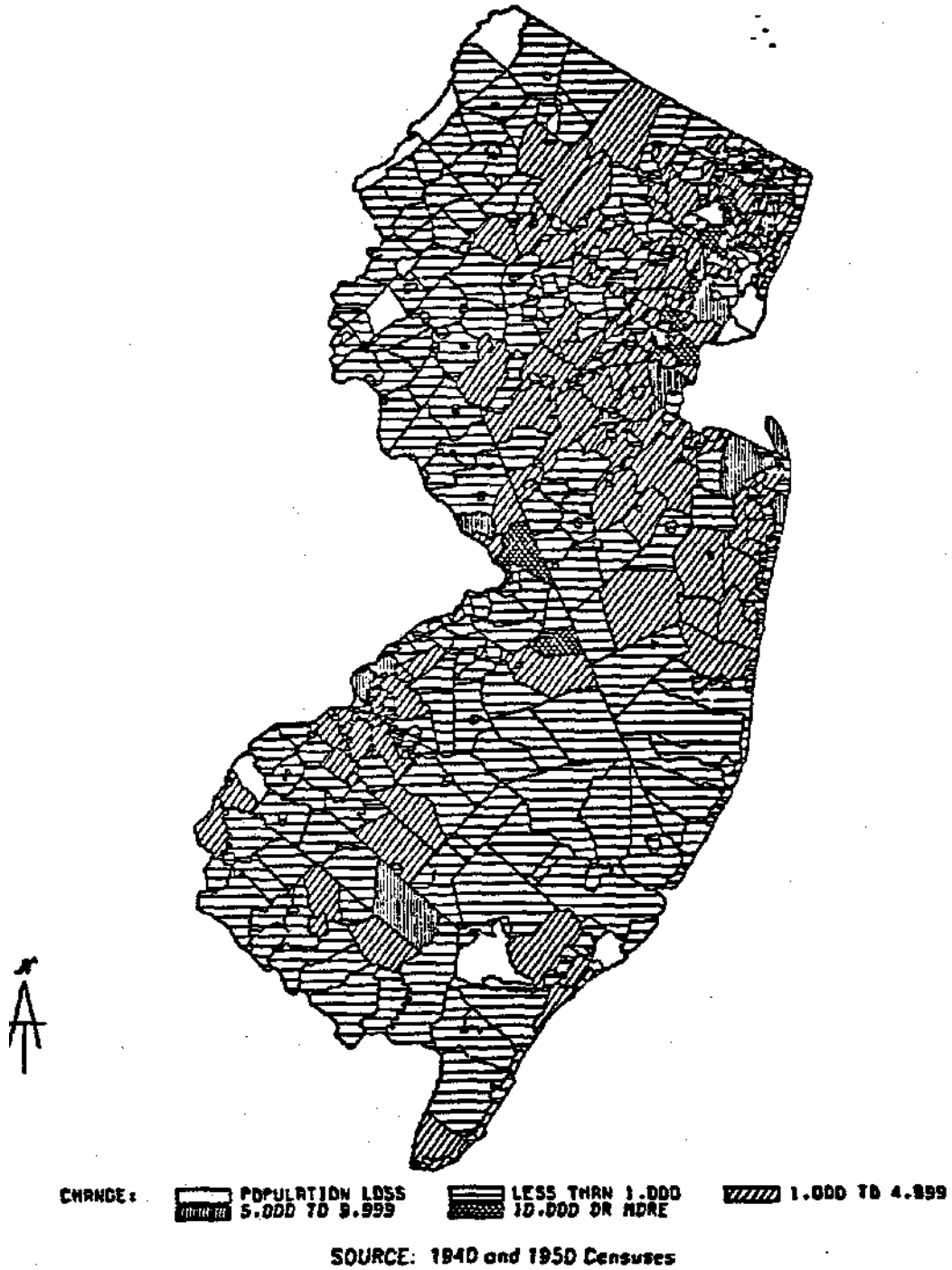
During the iterate from 1940 to 1950, the population of the State increased by 675,164 persons. (See Exhibit 2-1 titled "Change in Total Population, 1940 - 1950, New Jersey Municipalities".)

At the municipal level, the population increased in all but 2. Those municipalities which did not increase in population were located in Hudson County, the only county which did not grow in population during the decade.

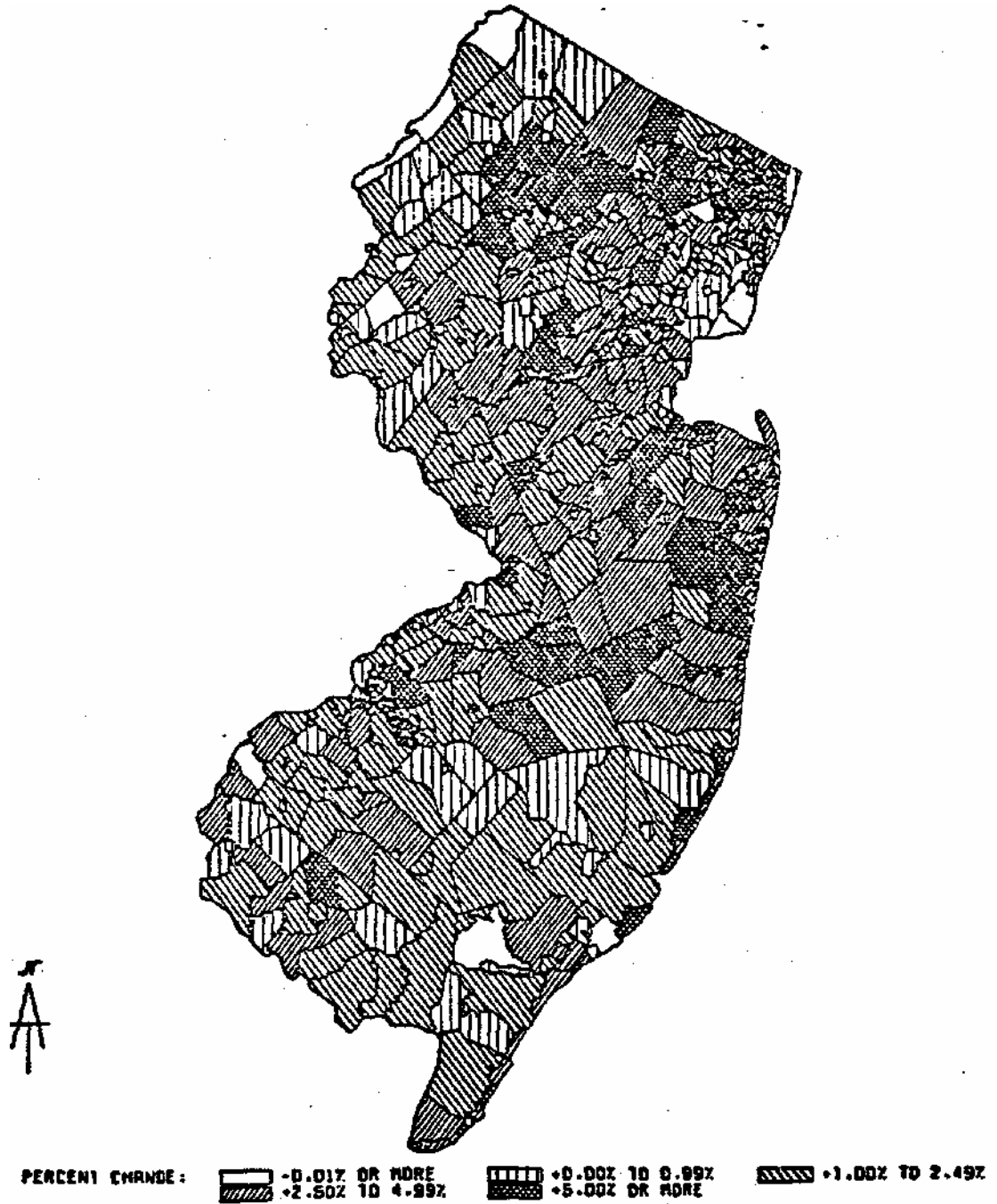
While most places in the State increased their population, much of the State's growth was concentrated in the urban counties of Bergen, Essex, Union, and Monmouth. These four counties grew by 331,975 persons during the decade; accounting for 49% of the total growth in the state. This growth pattern represents a continuation of the suburbanizing pattern established in the 1920's and 1930 's (See Exhibit 2-2). By highlighting the annual growth rates of 2.5% to 4.99% and 5% or more, the State's growth can be seen to be organizing itself into a suburban circumferential belt surrounding the older urban areas of Northern New Jersey. Very little growth had occurred in the New Jersey mmlriiffltifts surrounding Camden and Philadelphia.

Finally, examination of those municipalities which grew in total population by more than 5,000 persons in the decade, show that some of today's more troubled cities were still increasing their populations in absolute terms. For example, Newark grew by 9,016 persons as did Camden (7,019), New Brunswick (5,631) and East Orange (10,395). However, when the amount of growth in these places is compared to the natural population increases that might be expected due to their population bases, then this growth seems less significant. The real decline of the manufacturing cities is becoming evident, not through absolute population losses, but through more modest increases. With the advantage of hindsight, the more significant growth recorded in the growing suburbs of Hamilton, Ccantbrd Township, Swing Township, Woodbridge Township and New Hanover township can be recognized as the beginning of mass developed suburbia.

**CHANGE IN TOTAL POPULATION. 1940-1950
NEW JERSEY MUNICIPALITIES**

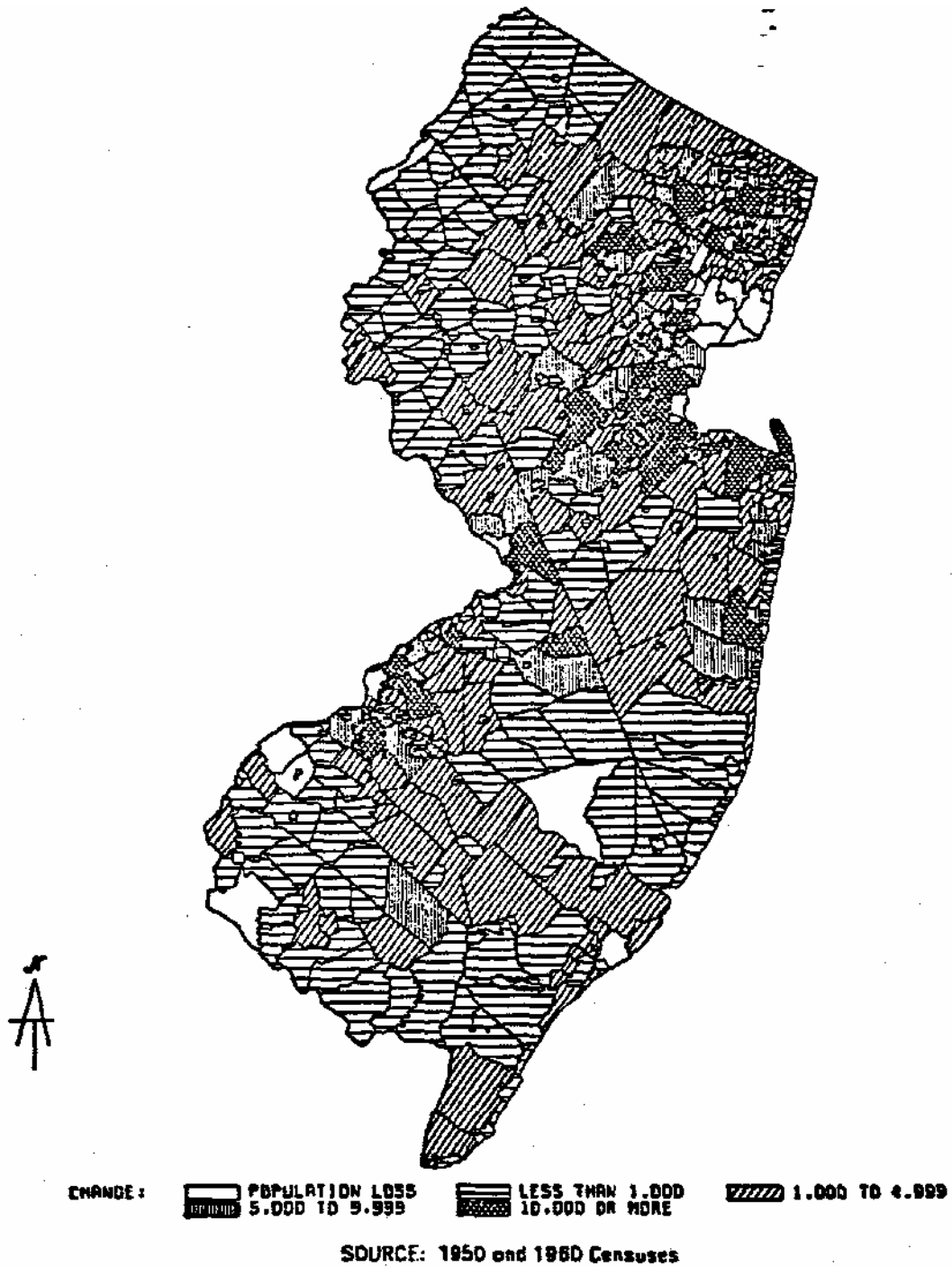


ANNUAL AVGE. PCT. CHANGE IN POPULATION, 1940-50
NEW JERSEY MUNICIPALITIES -

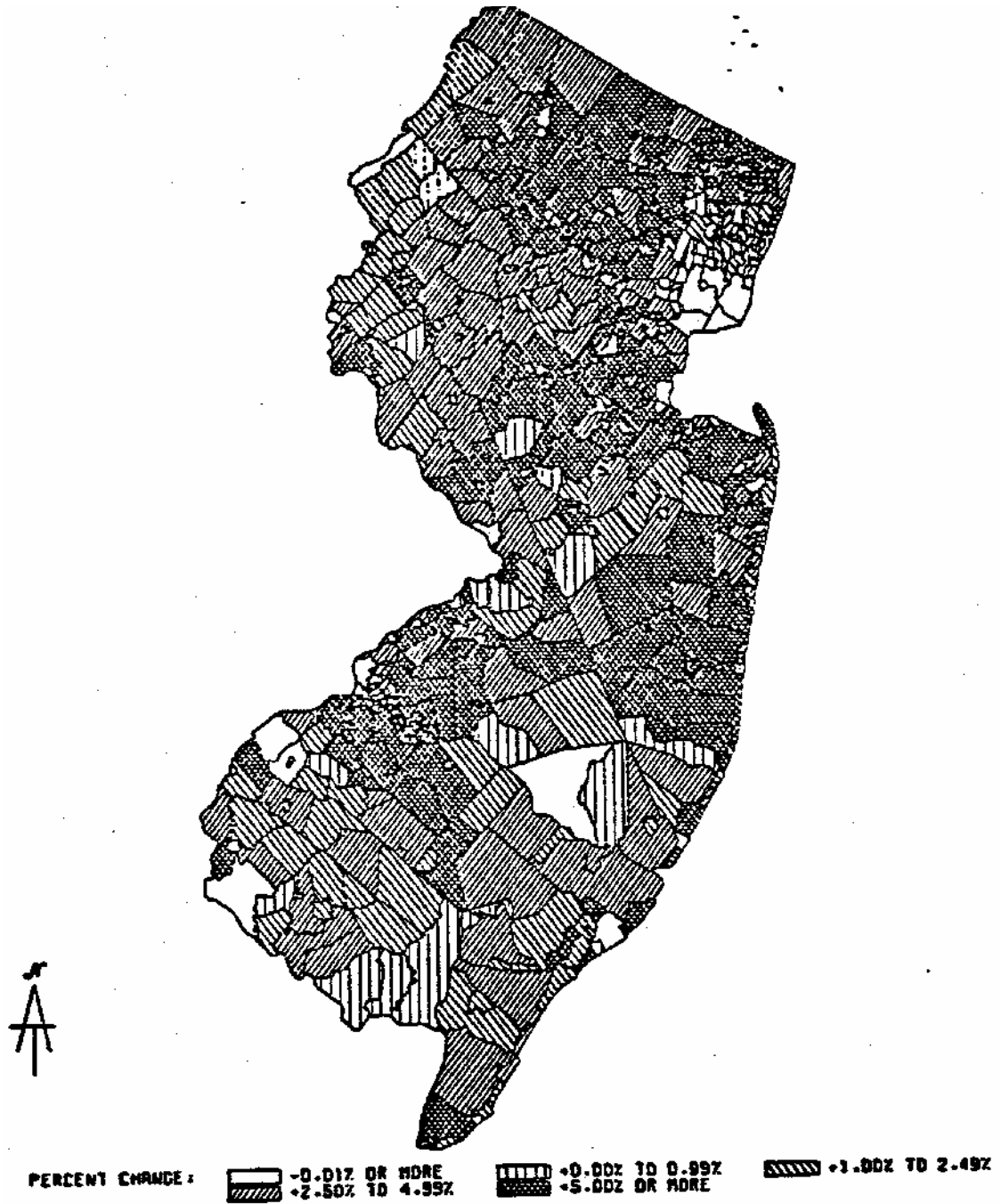


SOURCE: 1940 and 1950 Censuses

**CHANGE IN TOTAL POPULATION, 1950-1960
NEW JERSEY MUNICIPALITIES**



**ANNUAL AVGE. PCT. CHANGE IN POPULATION, 1950-60
NEW JERSEY MUNICIPALITIES**



SOURCE: 1950 and 1960 Censuses

Growth 1950 to 1960

Of the 1,231,453 persons who increased the State's population by over 25% during the ~~the~~ ~~seventy three percent~~ located in the seven counties of Middlesex (168,984 increase); Monmouth (109,074 increase); Morris (97,249 increase); Union (106,117 increase); Bergen (241,116 increase); Camden (91,292 increase); and, Burlington (88,589 population increase)* This growth concentration is displayed at & municipal ~~scale~~ in Exhibits 2*3

and 2*4*

The enormous increase in the State's population during this decade predominantly occurred in three concentrated development belts. The first extended around the previously suburbanized sections of Northern New Jersey. Beyond this belt of intense development occurred a second outer belt of less concentrated, but significant population growth, which reached almost into Pennsylvania. Another feature of this Northern New Jersey development belt is the linear development of Middlesex and Mercer Counties following Route 1. The second belt of development created the area surrounding Philadelphia. The third development belt extended through Monmouth and into Ocean counties, following the alignments of Route 9 and the Garden State Parkway.

Between 1950 and 1960, all but three of the state's municipalities •with populations of 50,000 or more persons recorded an absolute loss of population. (Those places that continued to grow were Irvington, Clifton, and Paterson). The largest numerical losses were reported in the older industrial cities in the Northern part of the state. Newark lost 33,556 persons; Jersey City lost 22,916 persons; and Trenton lost 13,842 persons.

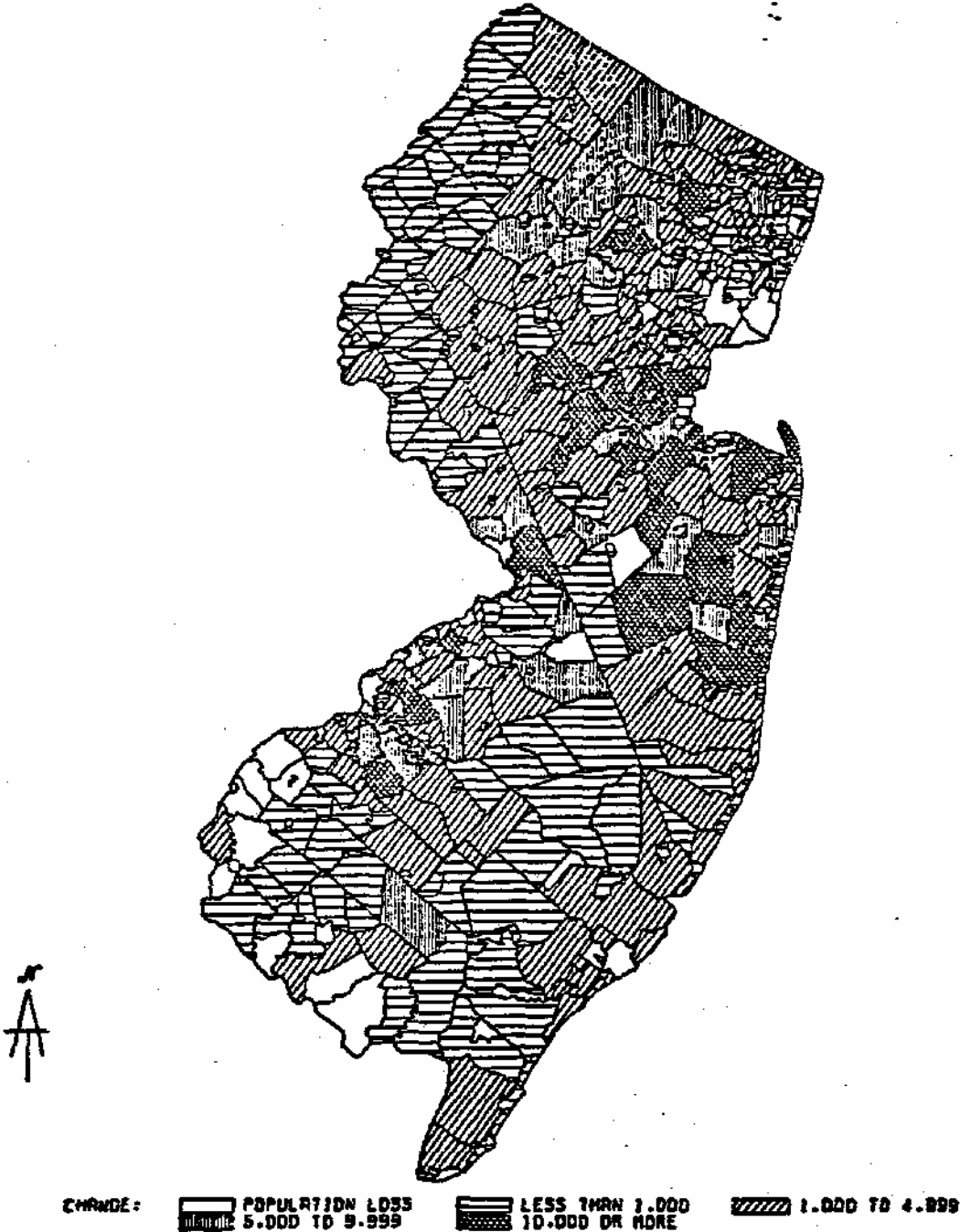
In the Northern part of the State, wedges of population increases can be seen to extend westward from the existing suburbs outward towards Pennsylvania. The pattern of population growth that is evident is one that reinforces the growth that occurred in the period 1940 to 1950. In the Southern part of the State, the marked population growth in Camden county and in nearby parts of Burlington county delineate the edges of the rapidly growing Philadelphia area suburbs. (See Exhibit 2-4)

As the older cities began to decline in population, suburbs developed. In the 20's and 30's are also declining in population. It is likely that these municipalities became empty nest communities, the suburban children raised in these neighborhoods having grown and left for homes of their own.

Growth 1960 to 1970

As in the previous decade, the majority of growth was concentrated in a few counties. Six counties accounted for 71% of the growth, as follows: Bergen (116,893 new persons); Burlington (98,633 new persons); Middlesex (149,957 new persons); Monmouth (127,448 new persons); Harris (321,834 new persons); and, Ocean (100,229 new persons). Of these six counties, four had been big population gainers in the previous decade (Bergen, Middlesex, Monmouth and Morris).

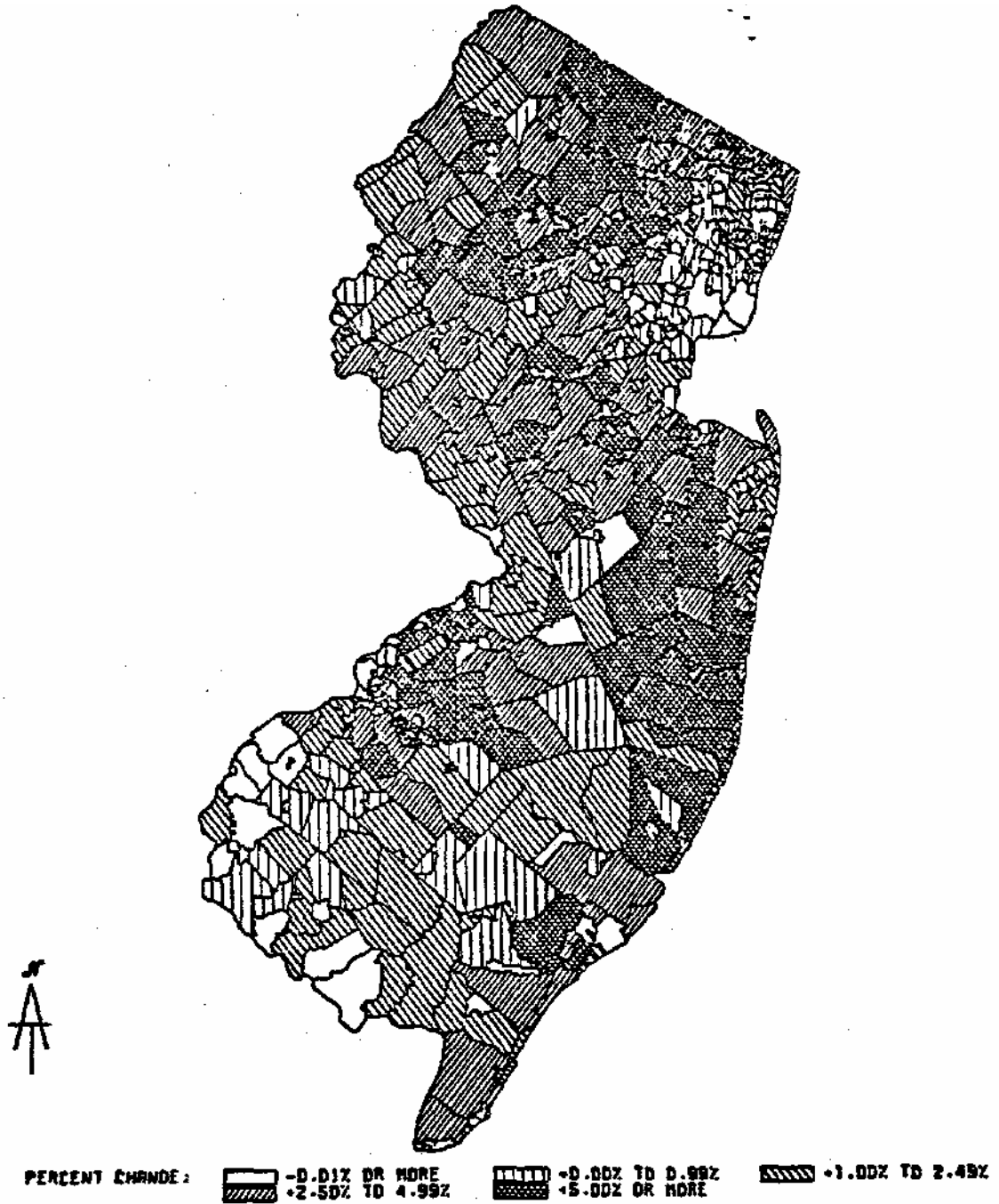
CHANGE IN TOTAL POPULATION, 1960-1970



SOURCE: 1960 and 1970 Censuses

NEW JERSEY MUNICIPALITIES

**ANNUAL AVGE. PCT. CHANGE IN POPULATION, 1960-70
NEW JERSEY MUNICIPALITIES**



SOURCE. 1960 and 1970 Censuses

Exhibit 2-5 highlights those municipalities which increased their populations by either 5,000 to 9,999 persons or by 10,000 or more persons during the decade. Several patterns of growth can be identified. First, the Northern New Jersey development belt moved further westward. This pattern then is a continuation of the sequential expansion in the 1940's. The Route 1 development corridor, first identified in the previous **decade**, continued to attract significant growth. The Monmouth and Ocean County growth is continued, but penetrated deeper into Ocean County. Finally, growth around Camden continues. (See Exhibit 2-6) Population continued to decline in the State's older industrial cities as well as in the suburbs which were developed in the 1940's.

CHAPTER III

Characteristics of Today's Population

Population Growth 1970 to 1985

The population of the State, as recorded in the 1980 Census, was 7,365,011 persons. This represents an increase of 196,847 persons compared to the 1970 census population of 7,168,164. This numeric increase is the lowest since the Depression decade of the 1930 's, and represents a growth rate of 2.7% for the decade, the lowest decennial rate of increase since the census was first reported in 1790.

The State's population growth rate also was lower than the comparable national growth rate of 11.4%, but it was more vigorous than the growth rate recorded for the Middle Atlantic Division of the United States. While New Jersey's rate of population increase was 2.7%, the Middle Atlantic Region (New York, New Jersey and Pennsylvania) lost 1.1% of its population,

The Middle Atlantic Region once had the largest industrial concentrations in the world, but the region's rate of growth has been below the national average since 1900. Researchers argue that there is a correlation between employment decline in the region and the sluggish rate of population growth. In essence, these experts argue that people tend to move into areas of employment opportunity, and avoid places with few job prospects. During the post War era (1940 to 1970), New Jersey's growth in manufacturing surpassed the national average through 1950, and continued to rise until 1970. During this time, the State's population grew vigorously. However, in the decade of the 1970 's, the economy of the State changed.

Samuel Ehrenhalt, Regional Commissioner of the Bureau of Labor Statistics, describes the 1970s as a "decade of transition". Manufacturing traditionally played a strong role in New Jersey's economy. However, during this decade, manufacturing employment fell below its 1950 level. Manufacturing accounted for one-third of all jobs in 1970. This decreased to one-quarter in 1980. The factors which contributed to this decline included higher energy costs, higher tax burdens and higher land prices with extensive land-use regulations.

Although the population growth rate is estimated to have increased during the 1980's, it is estimated that the State has not rebounded to previous growth rates. Since 1979 (the year that the 1980 Census was conducted), there has not been a full scale census of the State's population. The Department of Labor, Office of Economic Market and Demographic Research has published population estimates, based on analysis of vital statistics, school enrollment figures, federal tax returns, immigration data from the Immigration and Naturalization Service and changes in the number of housing units. This process produced an estimated total State population of 7,562,300 persons in 1985. This estimated 1980 to 1985 increase of 197,289 persons results in a growth rate of approximately 5% for the decade. If the State achieves this growth it will represent a decennial rate of growth comparable to the forecasted national growth rate of 5.4%*

Characteristics of the Population

Age Cohorts

The nation as a whole is experiencing an increase in the median age of its population. In 1970 the median age was 28.1 years, while in 1980 this median had increased to 30.1 years of age. -

New Jersey's population is older than the national average. The median age in New Jersey was 32.2 years in 1980, second only to Florida. This was an increase from the median age of 30.1 years of age in 1970. In 1970 almost 18% of the State's population was younger than 10 years of age. Today, this group of children represents only 13.2% of the State population. This decline suggests that the fertility rate had substantially reduced during the decade. At the other end of the population scale, the percentage of those aged 75 years or older increased from their 1970 share of 3% to almost 4.5% of the total 1980 population. (see Table 3-1)

Table 3-1
POPULATION AGE COHORTS FOR NEW JERSEY - 1980

Age Cohort	persons in State 1980	% total	Change in aged cohort from 1970 Census
<5	463,289	6.3	
5 to 9	508,447	6.9	
10 to 14	605,841	8.2	16,615
15 to 19	670,665	9.1	- 21,983
20 to 24	614,828	8.3	- 95,581
25 to 29	574,135	7.8	- 37,696
30 to 34	563,758	7.6	54,560
35 to 39	479,749	6.5	16,785
40 to 44	400,074	5.4	- 3,401
45 to 49	394,038	5.4	- 19,891
50 to 54	432,520	5.9	- 32,872
55 to 59	430,048	5.8	- 47,930
60 to 64	367,660	5.0	- 71,443
65 to 69	303,670	4.1	- 77,007
70 to 74	227,037	3.1	- 87,008
75 to 84	256,833	3.5	-183,036
85 and older	72,231	1.0	-184,889
	7,364,823		

Source: US Census 1970, 1980

Note: The total population in the table reflects an error in the Census. The correct total is 7,365,011, or a difference of 188 persons.

Only 3 age groupings increased in size during the 1970s.

1. those <5 in 1970 and 10-14 in 1980
2. those 20-24 in 1970 and 30-34 in 1980
3. those 25-29 in 1970 and 35-39 in 1980

Positive change in cohort size indicates a net in migration of persons in these age groupings. The early 20's and mid-30's are perhaps the most mobile in the life cycle; migration for these ages primarily is motivated by employment. The positive net migration of those under 5 years of age corresponds to the positive net migration of the 20-29 year old group; the former group were probably children of the latter.

Negative change is the sum of death and out-migration. Age groupings which decreased during the 1970s were:

1. the 10-14 year old in 1970 and 20-24 year old in 1980
2. the 15-19 year old in 1970 and 25-29 year old in 1980
3. the 40 and over cohorts

Prior to this decade, the history of population growth in New Jersey reflected vigorous in-migration of persons to new homes in the State. It is evident from the above comparison of the change in the number of persons in a 1970 cohort, compared to the same number of persons in the comparable aged 1980 cohort, that in-migration has been severely dampened. Perhaps more interesting is the observation that out-migration likely has occurred. The mortality rates for the two cohorts, 20 to 24 and the cohort 25 to 29, are low, yet the number of persons "lost" during the decade was substantial. Therefore, it is likely that outmigration is presumed to be the cause of net change. Reasons for migration for these cohorts include college education, employment opportunities and military service. It also is possible that some of these persons had to move out of the State due to a decline in job opportunity or the State's high cost of housing.

Not only was the growth rate low, but the absolute increase (193,711) represented less growth than would have resulted from natural increases (births - deaths) of the 1970 population base. New Jersey's 1980 population is the result of a new outmigration of residents during the period 1970-1980.

The 1985 estimated population represents an end of the State's net losses. In the 1980s, in-migration exceeds outmigration. This is unique within the Middle Atlantic Region, and may be attributed to the strong economic base of the State.

Households and Marital Status

As the baby-boom generation matured, they altered the household profile throughout the Nation. One Census Bureau delineates two basic households: families and nonfamilies. Family households contain two or

more related individuals, and are subdivided into three types: married couple families, female-householders (spouse absent) and Male-householders (spouse absent) families. The latter two encompass single parent Nonfamily households comprise either householders living alone or households composed of two-or-more unrelated individuals.

1980 Census reports a sharp increase of what were considered atypical households (single-parent families and nonfamily households) and the slow relative growth of the once typical American family (married with children). The marriage rate has remained stable during this period/ hovering in the range of 10 marriages per 1000 population. The divorce rate has ~~increased~~ from 2.2 per 1000 ~~population~~ to over 5*. Married couples comprised 70.5% of all households in 1970. By 1985 their share declined to 58%. In 1980 over 40% of all households were married couples with children under 18 years old. The figure declines to 27.9% by 1985. There are now more married couples without children than with children and the absolute number with children has declined since 1970.

This new reality is most evident in fertility patterns. In 1985, 18% of women with children in the United States were not married. The figure for white females was 12%, and 55% for blacks. For black women 18-24 years-old, 75% of births were to unmarried mothers.

changes in household structure have affected all groups in American society, but the most radical shifts have occurred in the households of blacks and Hispanics. In 1970, only 8.7% of white children lived with one parent and by 1985 this figure rose to 18%. Hispanic children living with one parent were 28.8% this same year, and for black children the figure was 53.9%. Today's family environment is quite different from previous generations.

Data on New Jersey households is less abundant than other population data between census periods. National data provides an indication of national trends and New Jersey household data closely match the Nation's. Between 1970 and 1980 New Jersey added 330,412 households compared to only 193,899 population gain. The State's household growth (14.9%) was about half the national rate (27.4%). Spouse absent and nonfamily households were primary growth sectors while married couples declined. Family households comprised 76% of totals in 1980, compared to 74% nationally. Married-couple families comprised 61% of the State and Nation. The State has a slightly higher proportion of non-married couple families and slightly lower non-family households. In general, New Jersey is following national trends in household characteristics*

Race

During the 1970 's, the black population of the State grew to a total of 925,066 persons*. The numeric growth of 154,774 ~~persons~~ since the 1970 Census represents a decennial increase of 20%. Compared to the increases in the black population since 1940, the population increase during the 1970 's is the smallest numerical growth since the decade of the 1940's, and represents the lowest rate of increase ~~recorded~~ during the post-Depression period.

In addition to the State's black population, those residents of nln origin represented the second and only other sizable minority population, in the State. In 1979, 494,096 persons of Spanish origin lived in the State. In all, 6.7% of the population reported that they associated themselves with this ancestry*

population of the State is continuing to become more diversified. In the 1980 Census, 19% of the population was either black or Hispanic. If other reported minority groups also are included (Chinese, Japanese, and American Indian), then the total minority population increases to 1,440,887 persons, or almost 20 percent of the total State population.

Income

New Jersey's per capita income is one of the highest in the nation. The State ranked fourth in the Nation in 1980, and is estimated to have advanced to second by 1983. Per capita income for the State was \$8,127 in 1980 and is reported to have increased to \$11,179 in 1983, compared to the national per capita of \$7,298 in 1979 and an estimated per capita of \$9,496 in 1983.

Table 3-2
COMPARISON OF NEW JERSEY AND NATIONAL PER CAPITA INCOMES 1980
CONSTANT 1967 DOLLARS

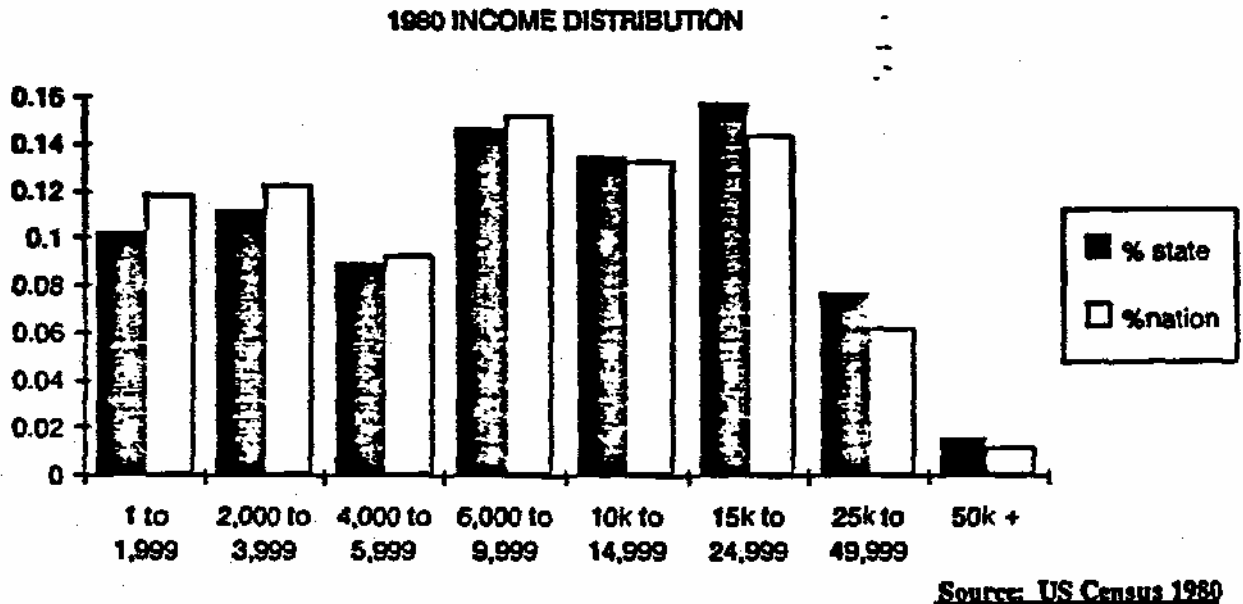
	Current Dollars	1967 Constant dollars
New Jersey		
1979	\$ 8,127	\$ 3,738.27
1983	\$11,179	\$ 3,865.83
National		
1979	\$ 7,298	\$ 3,356.95
1983	\$ 9,496	\$ 3,284.68

Source: US Census 1980
note: the factor to adjust the 1983
income to constant dollars was the
1982 CPI for all items, Handbook of
Basic Economic Statistics, Nov 1987

However, the real income of New Jerseyans increased by only \$128*56, or only 3.4% compared to the constant dollar per capita 1979 income, (see Table 3-2) However, compared to the Nation, the State's population did well, as real income for persons in the Nation declined between 1979 and 1983.

Another analysis of income is displayed in chart 3*1, which graphs the distribution of incomes in the State and the Nation for 1950, 1960 and 1970.

Chart 3-1



New Jersey's distribution of income for all persons aged 15 and older to pattern the shape of the national income distribution, the main differences are that New Jersey appears to have a somewhat smaller percent of persons in the lower income categories, and somewhat larger percentages of persons in the higher income (annual incomes of \$15 thousand or more) refl
tipfor ies.

Dramatic changes in labor patterns have occurred which affected household income structures. There has been a rapid increase in the number and percentage of wives in the labor force. Growing at the same rate as the most financially secure households (married couples with wives working), are female householders (spouse absent) families. Their income is approximately one-third that of dual income households. Two distinct family environments are emerging: two working parent families with adequate resources and single-parent families with much smaller resources. Both groups are growing: things are getting better for some households and worse for others.

This pattern is true for all groups today, yet there are greater differences among racial/ethnic groups. Almost 84% of white families are comprised of married couples; while only 71.7% of Hispanic and 51.2% of black families are married couples. Households headed by females comprise 12.8% of white families, 23% of Hispanic families and 43.7% of black

families. Minorities are underrepresented among high-income families and overrepresented among low-income

Black and Hispanic incomes are most competitive with whites at the high income configurations. Black married couples with dual incomes have a median income equal to 81.6% of the income reported by their white counterparts. Black female heads of households have a median income equal to 57% of the white female householders income. Nine percent of white families were in poverty, compared to 25.2% of Hispanics and 30.9% of blacks.

the nation is becoming better educated; the median number of school years completed is rising, and the percent of population completing high school and colleges is increasing. In 1960, the median school years completed by adults aged 25 or older was 10.6. By 1980 this figure increased to 12.5 years for both the nation and the state. Table 3-3 displays the number of adults, aged 25 or older, who completed high school, as their highest educational achievement, and the number of persons who completed at least 4 years of college. Both the state and the national figures are presented in the table.

Table 3-3
YEARS OF EDUCATION COMPLETED FOR ADULTS AGED 25 OR OLDER
1980 CENSUS

	Total Adults 25+	Years of School Completed	
		12 years only	16+ years
State	4,504,247	1,615,424	826,040
% of State		35.9%	18.3%
Nation	114,290,384	40,784,148	19,558,028
% of Nation		35.7%	17.1%

Source: US Census 1980
note: the category 12 years only includes only those who completed the fourth year of High School and did not receive additional college education.

New Jerseyans appear to be about as well educated as people in the rest of the Nation. One only area where New Jersey appears to be better represented is the percent of persons who are college graduates. However, even in this regard, there is only a slight difference between the New Jersey and the national percentages.

However, there were huge racial/ethnic variations within the State/ with regard to ~~iv~~ achievement. Slightly more than 60% of whites were high school graduates, compared to 52.8% of the black population and 42.8% of Hispanics. With regard to college education, the racial differences are even more pronounced. Over 16% of whites completed 4 years of colleges, compared with 6.7% of blacks and 6.4% of Hispanics.

Population Growth Within New Jersey

Population growth in New Jersey has not been evenly distributed. From 1970 to 1980, 5 counties had population losses, 8 had population gains between 0-10%, 4 had gains between 10-25% and 4 had gains in excess of 25%. All of the counties experiencing population decline were in the Northeastern part of the State, adjacent to New York City. Specifically, the following counties lost population during the decade: Essex (-82,000), Bergen (-52,000), Hudson (-51,000), Union (-39,000) and Passaic (-13,000). Historically, these counties were among the most populated and densely

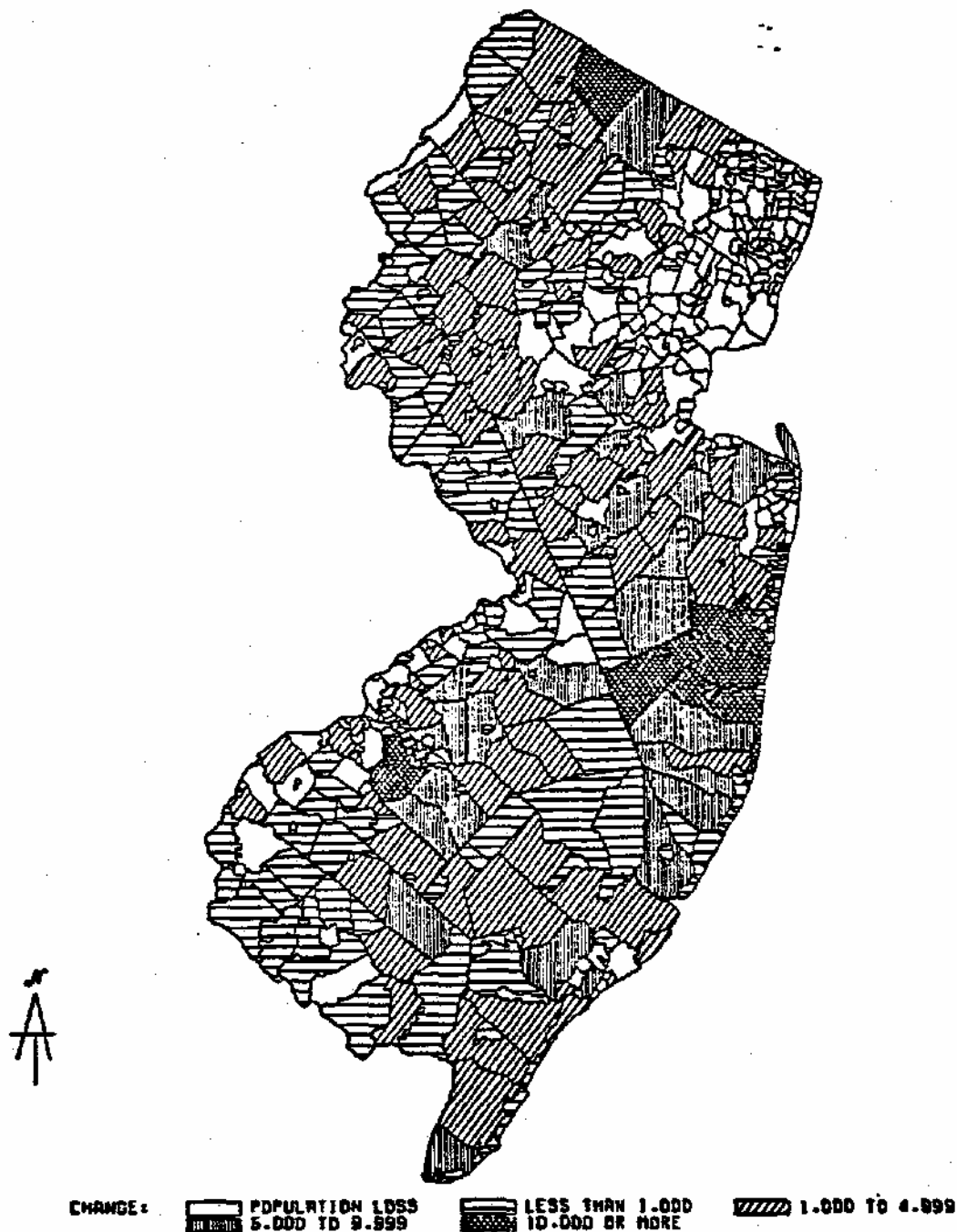
Growth occurred in counties outside of the historic core (see Exhibits 3-1 and 3-2). Growth in Hunterdon (17,000 or 25%), Harris (24,000 or 6%), Sussex (38,000 or 49%) and Warren (10,000 or 14%) might have been fostered by the ring highway, Interstate 287, and the completion of Route 78. Monmouth (41,000) and Ocean (137,000) grew as the undeveloped edge of the urban New York City metropolitan area. Growth in Burlington (39,000) and Gloucester (27,000) counties may have been influenced by their proximity to the Philadelphia metropolitan area.

Exhibits 3-1 and 3-2 also display a continuation of the growth pattern in the Northwestern part of the State, and the vigorous growth in Southern New Jersey.

A series of maps (Exhibits 3-3 and 3-4) have been prepared to illustrate the estimated growth since the Census up to 1985. As is evident in these maps, the growth in the Northern half of the State appears to have but growth in the Southern half of the State remains robust.

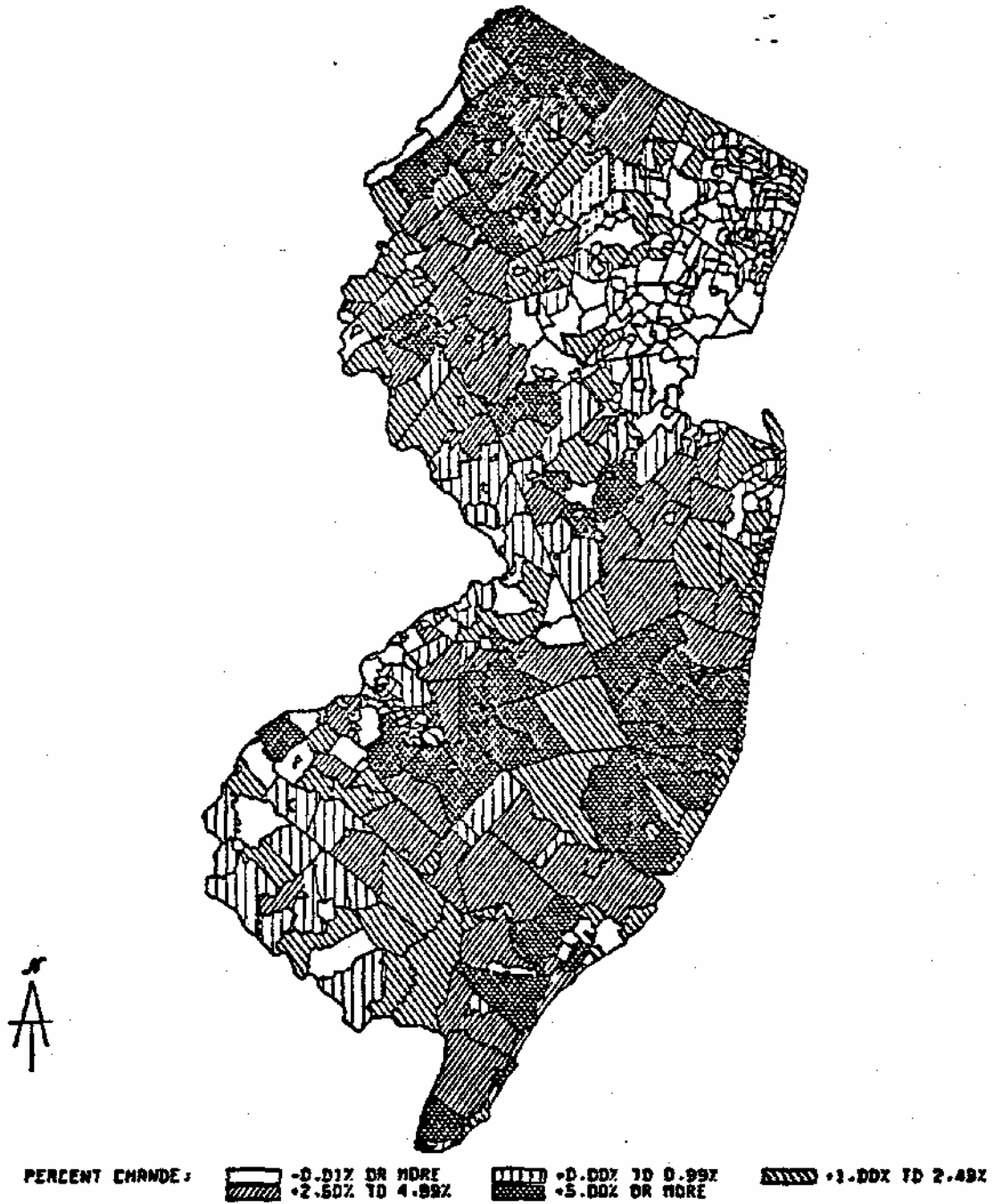
It also is evident that the historic core areas of Northern New Jersey, Hudson, Essex and Union counties, have continued population declines begun in the 1950 's and 1960 's. (Hudson County, however has been losing population since the 1940 's.) An analysis of population change (birth, deaths and migration) reveals the extent of the losses. Between 1980 and 1985, Essex and Hudson county residents had 20% of the births in the State, yet these counties had the largest population losses, all due to outmigration. Ocean, Monmouth, Middlesex, Atlantic and Cape May counties accounted for the largest migration gains.

CHANGE IN TOTAL POPULATION, 1970-1980 NEW JERSEY MUNICIPALITIES



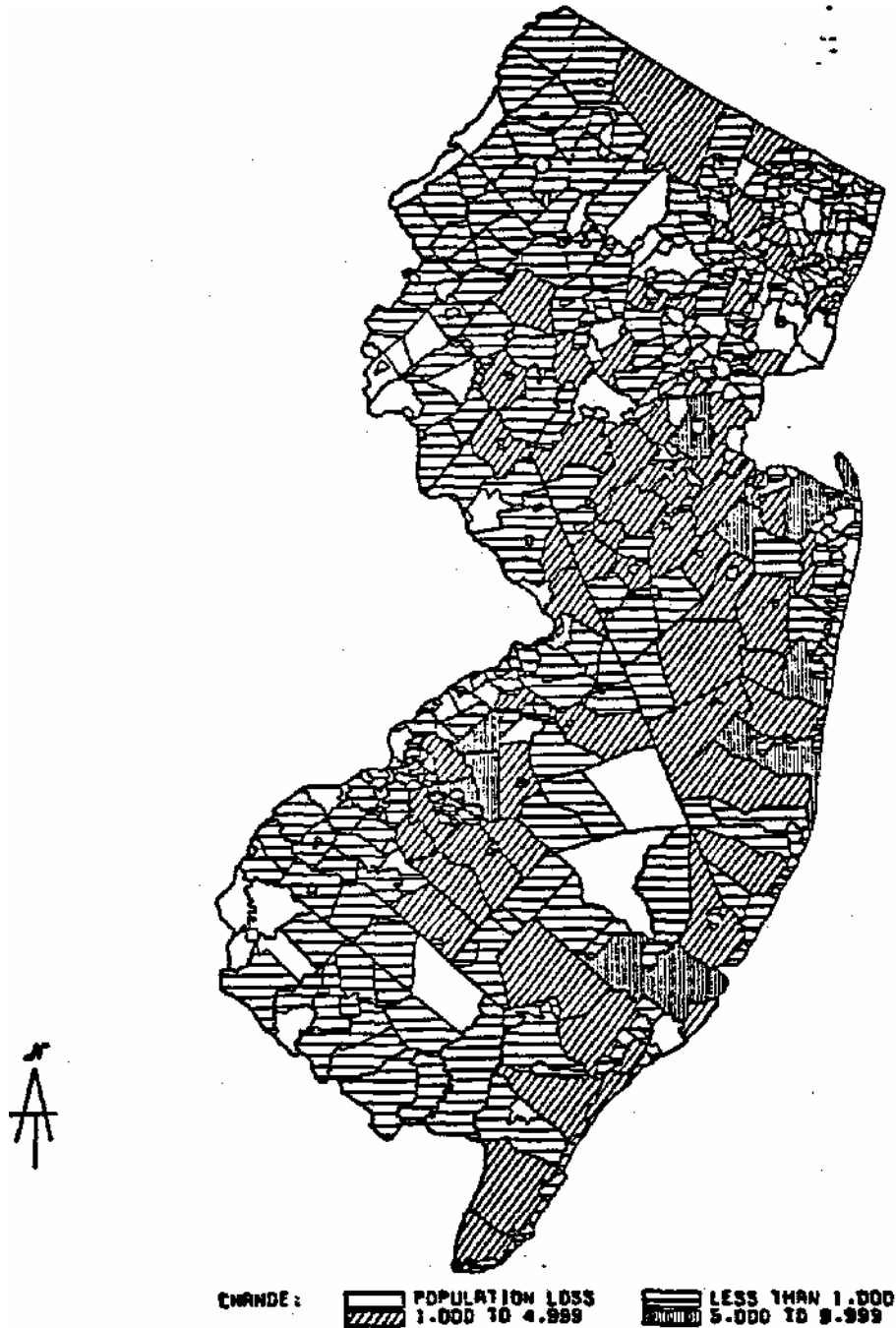
SOURCE: 1970 and 1980 Censuses

ANNUAL AVGE. PCT. CHANGE IN POPULATION, 1970-80
NEW JERSEY MUNICIPALITIES



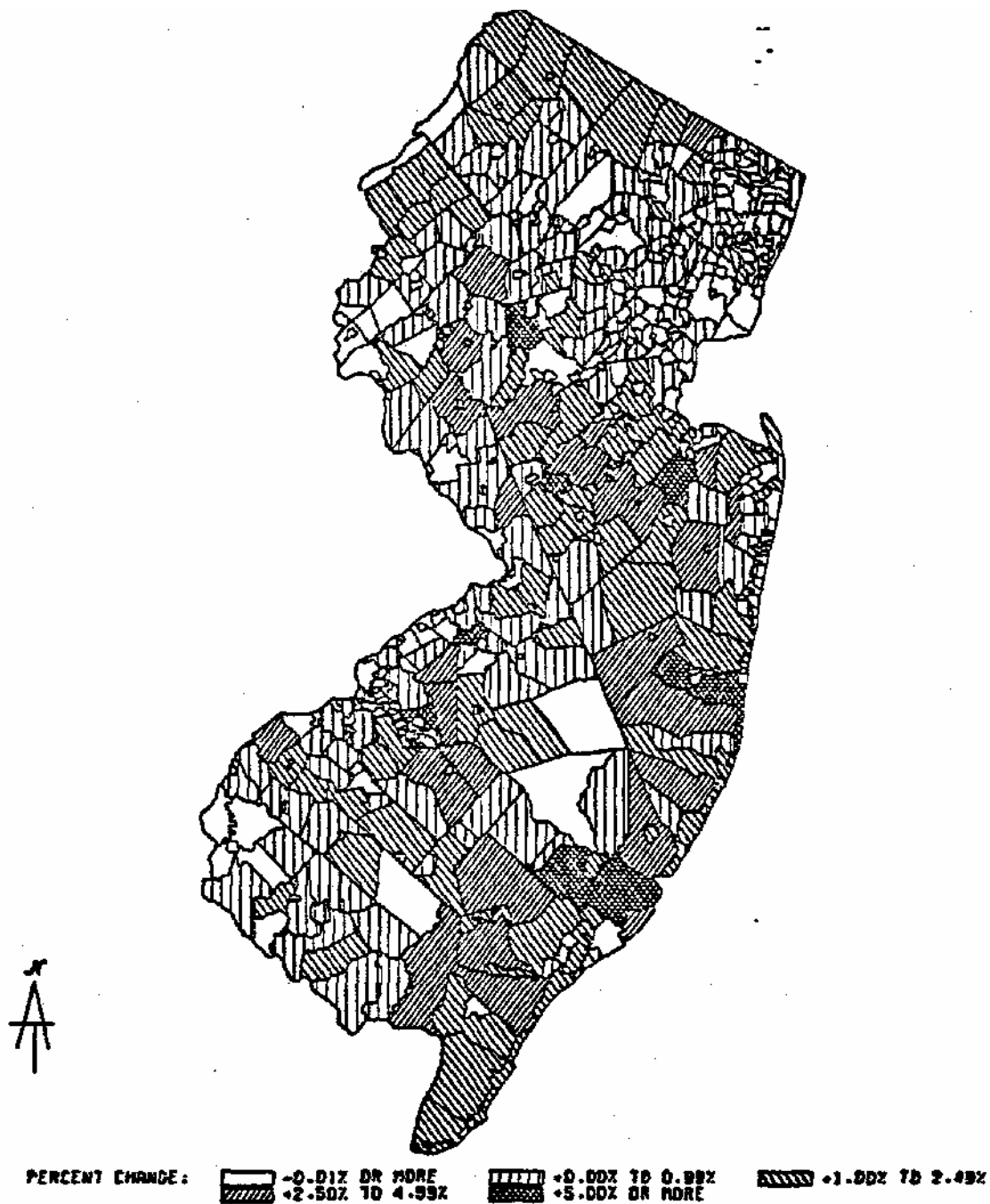
SOURCE: 1970 and 1980 Censuses

CHANGE IN TOTAL POPULATION, 1980-1985
NEW JERSEY MUNICIPALITIES



SOURCE. 1980 Census, 1985 D.D.E.A. Provisional Estimates

ANNUAL AVGE. PCT. CHANGE IN POPULATION, 1980-85
NEW JERSEY MUNICIPALITIES



SOURCE: 1980 Census, 1985 O.D.E.A. Provisional Estimates

CHAPTER IV

Trends (1940-1980) that Might Affect the Future

The preceding chapters of this report, examine the economic and educational patterns since 1940. During this period New Jersey experienced very rapid growth up to the early 1970 's, after which the State's growth and the characteristics of that growth changed in very dramatic and fundamental ways.

This chapter identifies the trends evident during the entire post war period. The purpose of this chapter is to briefly discuss these trends because many of them have been incorporated into the various population forecasts presented in the next section of this report. In addition, most of the next chapter's forecasts also tend to conform with the national population forecast prepared by the Bureau of the Census. (The forecasts differ with respect to the timing and to the location of growth during the forecast period, but tend to agree about the size of the growth). It is important to remember that historic trends do not necessarily continue into the future, and even if social characteristics do continue, they may be subordinate to other patterns yet to emerge.

The rest of this chapter is organized into two sections, each of which consists of several sub-sections. The first section identifies those trends which have been evident since 1940. The second section identifies those social patterns that appeared after 1970, and which may be transient or which may mark the emergence of new long term demographic shifts.

Long Term Trends

Urban Decline

Some of the cities, whose populations are listed in Table 4-1, increased their population at a rate equal to the State's growth rate. In fact many of these cities dramatically declined in population, while those that did experience growth (exhibited by an absolute increase of the 1980 population compared to the 1950 population), grew very little. In addition, the population losers overshadowed the gainers by such an extent that the total population of these cities declined each decade.

Table 4-1 CITIES WHH 1950
PCFULATiaC OF XT XEAST 50,000 PERSCKS
FCFuuaucNs isso OHRQUSJ

City	Population as of			
	1950	1960	1970	1980
Atlantic City	61,657	59,544	47,859	40,199
Bayonne	77,203	74,215	72,743	65,047
Camden	124,555	117,159	102,551	84,910
Clifton	64,511	82,084	82,437	74,388
East Orange	79,340	77,259	75,471	77,878
Elizabeth	112,817	107,698	112,654	106,201
Hoboken	50,676	48,441	45,380	42,460
Irvington	59,201	59,379	59,743	61,493
Jersey City	299,017	276,101	260,350	223,532
Newark	438,776	405,220	381,930	329,248
Passaic	57,702	53,963	55,124	52,463
Paterson	139,336	143,663	144,824	137,970
Trenton	128,009	114,167	104,786	92,124
Union	<u>55,537</u>	<u>52,180</u>	<u>57,305</u>	<u>55,593</u>
Total Population	1,748,337	1,671,073	1,603,157	1,443,506

Source: US Census 1950, 1960, 1970 and 1980

While these cities did not share in the vigorous growth of the State, Table 4-2 shows that the populations of most of these cities underwent a dramatic change. Specifically, the table displays the black population of each of the cities, and the percentage of the total population represented by the black population. In addition, the percent of the State's total black population living in these cities also is reported.

Table 4-2 supports two interesting observations. First, the percentage of the total black population that lives in these cities has not significantly changed. The State's black population has been an urban population since the late 1940's. Also, the State's black urban population is concentrated into very few municipalities. Second, the table shows that the racial composition of the cities has significantly changed, and is continuing to change. Given that the overall population of these cities has declined, and given that the black populations in these cities has grown the city's population decline can be attributed to the abandonment of these cities by their former white populations, or by the children of former white urban populations.

Table 4-2
BLACK POPULATION OF SELECTED NJ CITIES
1950 THROUGH 1980

City	1950		1960		1970		1980	
	number	%	number	%	number	%	number	%
Atlantic City	16,782	14%	21,532	36%	20,937	44%	19,929	50%
Bayonne	1,830	5%	2,386	3%	3,134	4%	2,676	4%
Camden	17,434	5%	27,463	23%	40,132	39%	45,028	53%
Clifton	159	.3%	126	.2%	267	.3%	432	.6%
East Orange	9,062	11%	19,220	25%	40,099	53%	65,650	85%
Elizabeth	7,340	7%	11,697	11%	17,480	16%	19,304	18%
Hoboken	455	.9%	1,565	3%	1,876	4%	1,997	5%
Irvington	90	.2%	79	.1%	2,345	4%	23,429	38%
Jersey City	20,758	7%	36,692	13%	54,595	21%	61,957	28%
Newark	74,965	17%	138,035	34%	207,458	54%	191,968	58%
Passaic	2,944	5%	4,661	9%	9,861	18%	10,369	20%
Paterson	8,270	6%	21,138	15%	38,919	27%	47,114	34%
Trenton	14,479	11%	25,638	23%	39,671	38%	41,845	45%
Union City	34	.03%	73	.1%	580	1%	1,385	3%
	<u>172,034</u>		<u>306,076</u>		<u>453,694</u>		<u>529,269</u>	
Percent total Black Population		54%		59%		59%		57%

Source; US Census 1950, 1960, 1970 and 1980
Note: The % displayed on the same axis as city represents the percent of the city's population that is Black. The % at the bottom of the table is the percent of the State's Black population living in the selected cities.

Table 4-3 examines the income of the residents of these cities. Unfortunately, no single index of income was available which existed for all of the cities for the entire time period. For the 1950, 1960 and 1970 Censuses, the income index used in this analysis was the median income of families and unrelated individuals with incomes over the age of 14*. Comparable income was not available in the 1980 Census, therefore the 1980 comparison is based on the median per capita income. Because of this base data difference, the actual reported incomes are not presented in the following table. Rather, a percent is represented, which was derived by dividing the city's median income by the appropriate State income. Therefore, the table displays relative income for all the years.

Table 4-3 INQGMES FOR
SKTrTTRD CITIES, 1950 UffiOUGH 1980

	Percent of Comparable State Median Income			
	1950	1960	1970	1980
Atlantic City	68%	47%	44%	66%
Bayonne	115%	97%	93%	89%
Camden	92%	78%	64%	46%
Clifton	115%	115%	111%	102%
East Orange	106%	95%	81%	72%
Elizabeth	99%	96%	87%	77%
Hoboken	99%	78%	61%	62%
Irvington	111%	99%	84%	76%
Jersey City	103%	89%	78%	67%
Newark	94%	78%	64%	52%
Passaic	95%	85%	72%	67%
Paterson	92%	81%	73%	58%
Trenton	94%	80%	67%	62%
Union City	99%	129%	77%	75%

Source: US Census 1950, 1960, 1970 and 1980

Table 4-3 shows that in 1950, most urban residents had incomes close to the State median income. However, since that time, the median income of all but one city (Clifton), has failed to remain at an amount equal to the State median income. One possible explanation for this income erosion could be that the cities filled with poor black residents. While this scenario might have some validity, it does not adequately explain all of the circumstances described in the above table. For example, the black populations of Hoboken, Bayonne, Passaic, Elizabeth and Union City are very small, yet the median incomes in all of these cities declined substantially.

It appears likely that the income decline in the cities is a result of the exodus of the higher income earners from the cities, or a result of the failure of higher income individuals, white and black, to locate in the State's cities as time passed.

Population Decline in the

pattern of outwardly moving growth exhibited since 1940 has been one of intensive development at the edges of the suburbs and sprawl development in exurbia. This growth pattern has created pockets of homogeneously aged homeowners and homes, somewhat like rings of a tree, extending outward from the core areas, the older urban areas. As these areas age, the populations in these communities tends to decrease, as the children of the suburbanites mature and leave the homes of their parents. (see exhibits 3*1 through 3*4)

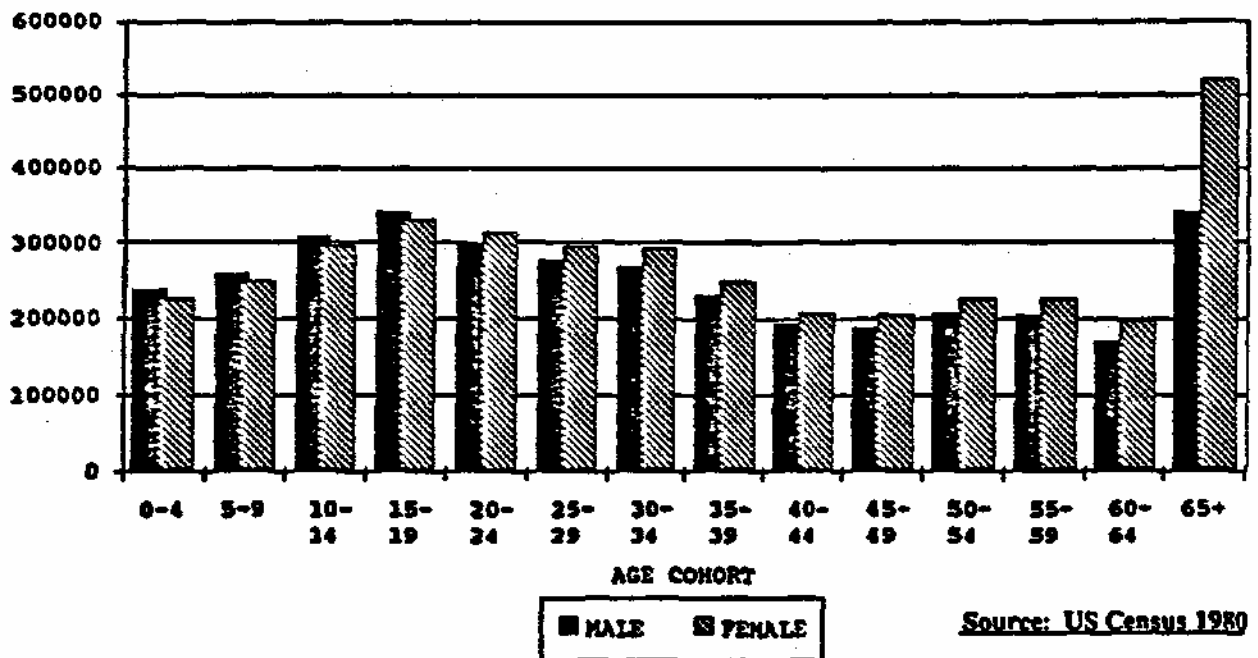
It also appears that the pattern continues, i.e. these areas of moderate population decline continue to lose population. This is the pattern established by- the urbanized areas. Possible causes of this continued decline might be: the houses are aged and were designed to appeal to the expectations of another generation and substantial investment may be necessary to continue the structure's vitality and market desirability; or, as the income earning potential of the area's residents declined as they entered retirement, the area as a whole declined; or, that the newer, more desirable jobs now are located in new facilities in suburban locations and the long commute to the new jobs makes the location of the older suburbs undesirable*

Aging of the State's Population

median age of the State's population will increase with time, through the beginning of the next century, as the baby boomers age and the life spans of the State's senior citizens continue to lengthen. Chart 4-1 shows the age cohorts as reported in the 1980 Census. Following World War Two and continuing to 1965, the Nation and the State experienced a substantial increase in the birth rate. One children born during this period, the so-called "Baby Boomers", now are middle-aged. By the end of the time horizon of the State Plan (2010), many of these boomers will be of retirement age. The abnormally large number of people in this age group will place extraordinary demands on health care facilities and social service facilities for senior citizens. The loss of these workers also could create substantial employment opportunities in the state.

Chart 4-1

Population of New Jersey: 1980 by Age and Sex



Following the Baby Boomers came a period where the birth rate has declined. Today, the birth rates for both minority and non-minority men in the State is lower than the rate required to maintain the existing population. Today's children have been referred to as the "Baby Busters", because of their reduced representation in the state's and the nation's population. One lower rate of birth evident today suggests two possible trends. First, the state's population increases will be primarily dependent on the continued immigration of persons from other states. Second, it appears that there has been a correlation between economic growth and population growth in New Jersey, (this relationship is a very important assumption in several of the population forecasting models to be presented in the next chapter of this report.) However, New Jersey employment growth focus has been shifting westward along interstate and arterial roadways for the past 40 years. It is conceivable that in the decline in the birth rate, and the reduced in-migration suggest an overall future, workers in New Jersey jobs might live in Pennsylvania. Second, the reduction in the State's school age population.

Income Disparity

Since 1950 the incomes of New Jersey residents have been exhibiting increasing disparities. There are large numbers of persons with very low incomes and there are large numbers of persons with high incomes. An analysis of the income characteristics of the population indicates that males tend to earn more money than females. Whites earn more money than blacks. Families with two adults earn more income than single parent householders. Householders with two income earning adults earn the most income. Female heads of households earn the lowest incomes. People over the age of 55 tend to earn less income than do adults aged 25 to 54 years.

It is likely that the income disparity now exhibited by the State's population will continue. The State's population is getting older, and therefore more members of this population might be earning less. The single parent household appears to be continuing as an increasingly common condition, with the largest percentage of these households headed by women. The median income of the State's urban areas also continues to decline. At the other end of the income spectrum, the State still attracts highly paid professionals to its Research and Development-based industries and to many other service related jobs.

Table 4-4
MEDIAN BCKE OF NEW JERSEY HXSEHXCERS
1980

<u>Age Group</u>	<u>All Males</u>	<u>White Males</u>	<u>Black Males</u>
15 to 19	\$ 1,756	\$ 1,800	\$ 1,350
20 to 24	7,576	7,879	5,923
25 to 34	15,486	16,047	11,310
35 to 44	20,702	21,746	14,271
45 to 54	20,702	21,587	13,821
55 to 64	17,323	18,011	11,123
65 and older	7,846	8,107	4,863
	<u>All Females</u>	<u>White Females</u>	<u>Black Females</u>
15 to 19	\$ 1,602	\$ 1,603	\$ 1,511
20 to 24	5,794	6,173	4,411
25 to 34	8,145	8,384	7,666
35 to 44	7,333	7,057	8,521
45 to 54	7,939	8,027	7,762
55 to 64	6,730	6,913	5,482
65 and older	4,008	4,113	3,260
	<u>Traditional Family</u>	<u>Males Single Householder</u>	<u>Female Single Householder</u>
15 to 19	n/a	n/a	n/a
20 to 24	\$16,432	\$12,443	\$ 4,222
25 to 34	23,156	16,682	6,708
35 to 44	27,766	21,052	10,629
45 to 54	31,939	23,308	15,459
55 to 65	27,315	22,767	17,028
65 and older	14,478	17,153	15,211

Source: US Census 1980

Post 1970 Trends

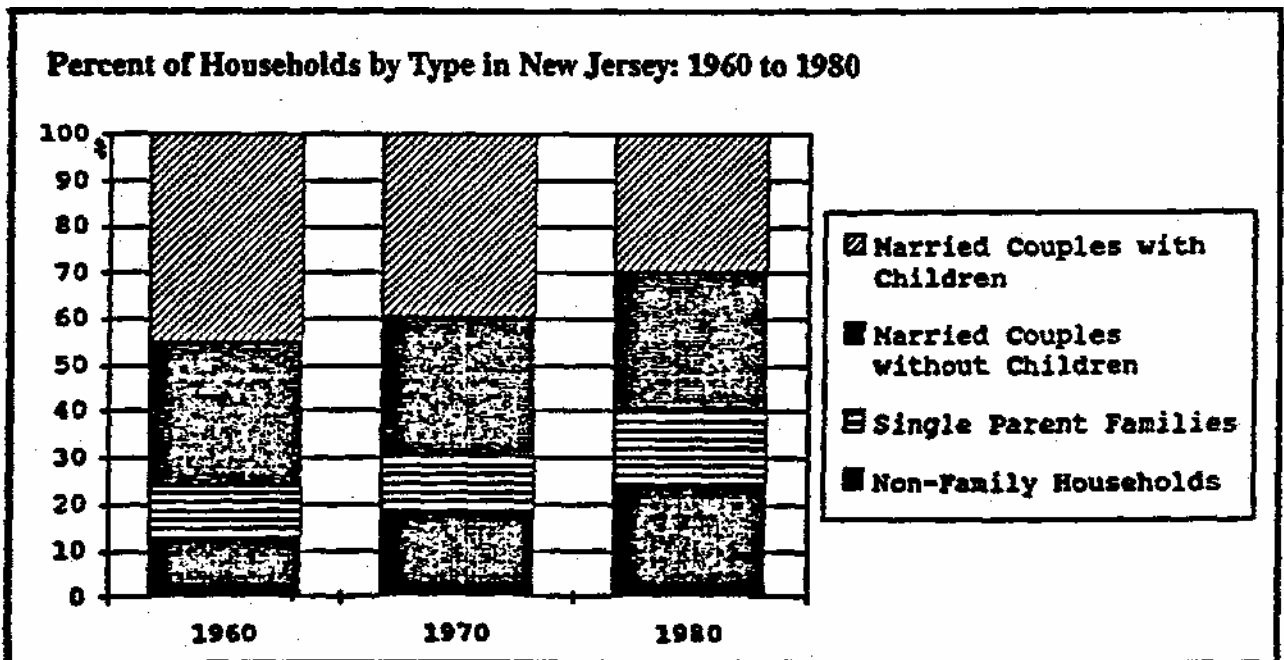
Dampening of in-migration

One of the distinguishing features of the State's population change ~i 1970 and 1980 has been the substantial decline in the number of bet persons moving into the State. Its vigorous growth in the State prior to this time, with the exception of the Depression, had been due to persons moving into the State. If either the low rate of in-migration recorded in the 1970's continues, or the modest rate of in-migration estimated to be occurring in the 1980's continues, the State's population will grow very slowly, or might even decline.

None of the forecasts presented in the following chapter describe this slow growth or decline scenario. Many of the forecasts have been adjusted to fit the Bureau of Census Forecast, which is optimistic about the State's population growth through in-migration. The current 16 Census forecast for the State displays a more vigorous rate of in-migration than has been exhibited during the 1970 to 1980 period. It is possible that the rising cost of living in the State, especially in the area of housing, could have a negative impact on the desirability, or affordability, of future residential locations in the State.

If the trend of the growing non-traditional household (i.e., single householder, non-family households) shown in chart 4-2, continues, a greater number of shelters will be needed to house the State's future population. If the total population continues to grow less rapidly, this probably means that the number of housing units, and the amount of new land needed to be developed to accommodate this less dense population will remain close to today's production levels. If, on the other hand, the traditional family life-style resumes its popularity, then fewer housing units will be required in the future.

Chart 4-2



Source: US Census 1960, 1970, and 1980

CHAPTER V

Estimates of Future Growth

Introduction

In invariant planning capability is the ability to estimate future conditions; in the case of this report, the number of persons who will live in the State and their demographic characteristics,

However, the nature of estimating future conditions has to be recognized as being a process of making educated guesses. People preparing population forecasts couch their judgements with semantic distinctions such as "projection" and "forecast". A projection is generally understood to be a crinfi**-.inyki statement about the future. For example, if it rains for 50 days this year and the rain is collected into reseviors; then the State will have adequate water for the year, ttiis is to say that if all of the conditional statements in the projections are true, then the estimate of growth will be true. A forecast also is based on assumptions, but the assumptions used have been determined to represent the "most likely" conditions. For example, instead of assuming that it would rain for 50 days (a projection), a forecaster might decide to use a more conservative estimate of 31 days, which is .the average number of rain days for the State of New Jersey. In this report the technical terms forecast and projection are used interchangeable.

This chapter records all of the current population projections and forecasts for the State of New Jersey. The base years for the forecasts are: 1995, 2000, 2005 and 2010. These years were selected because data generally is available for these years, the years coincide with census years (2000 and 2010) and the mid-point of census years and 2010 is the current horizon year of the plan. Not all of the forecasts include estimates for all of the base years. Some of the population estimates are Statewide; some only cover part of the State.

Most of these future copulation forecasts and projections consist of county estimates. Frequently, these county estimates have been organized into larger regions or areas by the forecasting agency. Sometimes the reason for this aggregation is purely bureaucratic. However, the main reason for this larger organization is that there exists a synergism, both economic and social between these counties, which argues that counties be evaluated as a single regional entity.

The rest of this chapter identifies the estimating agencies and presents their forecast or projections. The mission of the agency, the geographic regions that the agency covers and uses in its estimate, and the estimation methodology is reported.

Alternative

"OS Department of Commerce, Bureau of the Census

The Bureau of the Census is organized under the United States Department of Commerce and is responsible for determining the number of people residing in the United States. This function is done once every ten years*

* Regions

The Bureau of the Census divides the State's counties into consolidated Metropolitan Statistical Areas, (MSA) some of which are designated primary (MSA). MSAs are defined as regional areas of shared economic activity based upon a central city or cities. Some MSAs are composed of counties that are entirely located within a state, while at other times, MSAs can be part of inter-state county groupings. New Jersey has eight MSAs located entirely within its borders; shares the Philadelphia MSA with Pennsylvania; and shares the Wilmington MSA with the States of Delaware and Maryland.

Table 5-1 displays the MSAs in New Jersey.

* forecasts

Census Bureau prepares a national population forecast as well as a forecast for the entire State. In preparing the national estimate, the Bureau of the Census uses an average of the Composite Method and the Administrative Records technique to estimate population.

Composite Method divides the population into two segments: those under age fifteen; and, those aged fifteen through age sixty-four. By using school enrollment and vital statistics, migration for the under fifteen segment is calculated. Migration for the fifteen through sixty four year old population segment is calculated with a ratio correlation procedure that employs a multiple regression equation. The independent variables in the equation are Federal Income tax returns, school enrollment, and housing units. The resultant migration rates are then used to adjust the natural increases for the State's population from birth through 65 years of age.

Like the Composite Method, the Administrative Records also estimate the population in the zero through sixty five age group range. Individual income tax returns are used to measure net internal migration, while legal documents and past in-migration trends are used to calculate net in-migration.

sixty five-end-over population and the under sixty five population that lives in group quarters are added to the total of the two methods, which are then averaged. This group quarters information is a summation of those persons living in dormitories, military barracks etc.

Table 5-1

Census Bureau NJ Metropolitan Statistical Areas	
Area Title	Counties
Allentown - Bethlehem, PA - NJ MSA	Warren (NJ) Carbon (PA) Lehigh (PA) Northhampton (PA)
Atlantic City, NJ MSA	Atlantic (NJ) Cape May (NJ)
Bergen - Passaic, NJ PMSA	Bergen (NJ) Passaic (NJ)
Jersey City, NJ PMSA	Hudson (NJ)
Middlesex - Somerset - Hunterdon, NJ PMSA	Hunterdon (NJ) Midlesex (NJ) Somerset (NJ)
Monmouth - Ocean, NJ PMSA	Monmouth (NJ) Ocean (NJ)
Newark, NJ PMSA	Essex (NJ) Morris (NJ) Sussex (NJ) Union (NJ)
Philadelphia, PA - NJ PMSA	Burlington (NJ) Camden (NJ) Gloucester (NJ) Bucks (PA) Chester (PA) Delaware (PA) Montgomery (PA) Philadelphia (PA)
Trenton, NJ PMSA	Mercer (NJ)
Vineland - Millville - Bridgeton, NJ PMSA	Cumberland (NJ)
Wilmington, DE - NJ - MD PMSA	Salem (NJ) New Castle (DE) Cecil (MD)

Source: New Jersey State Data Center

Information on the
medicare statistics*

aged sixty five-and-over is derived from

The Bureau of the Census also does State and regional projections. The Bureau uses a cohort component model to project State population. In a cohort component method, the base population is organized into five year (eg age 0-4, age 5-9, age 10*14 etc.) groups by race and sex. These groups, or cohorts, are then aged by five year rerinfte and a mortality rate applied. A fertility rate for females then is assumed, and the new births become the new age cohort 0 to 4 years of age. Finally, net migrations are calculated to account for people moving into or out of the area of the forecast. State to state migration rates are ctflrrulfttfvl through administrative records such as tax returns. Single year age/race/sex consonants are used for the projections.

The following table displays the Bureau of Census forecast for New Jersey.

Table 5-2

Census Bureau Population Projection					
	1990	1995	2000	2005	2010
U.S.	249,891	259,619	267,747	275,085	282,055
N.E. Region	50,577	51,293	51,810	52,171	52,496
Mid Atlantic	37,499	37,827	38,035	38,148	38,253
New York	17,773	17,886	17,986	18,060	18,139
New Jersey	7,899	8,252	8,546	8,779	8,980
Pennsylvania	11,827	11,689	11,503	11,310	11,134
All Numbers in Thousands (,000)					

Source: US Bureau of the Census
Current Population Reports, series P-25

New Jersey Department of T^IW (DOL)

The New Jersey Department of T^IW provides a variety of services intended to facilitate employment and to insure equitable and safe workplaces. Within the Department is the Division of Planning and Research which collects and evaluates various employment data, and which oversees the preparation of employment and population forecasts. In preparing its forecasts, COL coordinates directly with the federal Bureau of Census.

* Regions

The New Jersey Department of T^IW has divided New Jersey into county groupings called Trthnr Market Areas. These Tflbnr Areas conform to the Bureau of Census KS&s. The only difference is that Trtfnr Areas only consist of New Jersey counties.

Table 5-3 describes the New Jersey Department of Labor, Ifitrrr Market Areas.

* forecast

New Jersey Department of Labor, Division of Planning and Research, Office of Tflbnr Market and Demographic Research, prepares and publishes both population and employment projections for the State and its counties. The most recent population projections were published in November 1985. It is expected that in the near future, new (possibly revised) DOL population projections might be released.

COL actually prepares two projections. The first, called the Economic Demographic, is termed the "preferred" model. This model is sensitive to forecasted shifts in the State's economy. The second model replicates the recent population growth and movement that has occurred in the State, and is called the "Historic Migration" model. One following sections <tescrite both of these models in more detail.

CCE& Economic

The COL Economic Daigrflj-me model is a standard cohort projection. Its key feature is the use of employment growth as the main factor in determining net migration. The most recent result from this model was >KMghod in November 1985.

In this model 5 year age groupings, called cohorts, are "aged" in five year intervals for the period of the forecast (2010). Race sensitive fertility rates are applied to females in their child bearing years, based on the US Census national "middle series" projections of fertility* (It should be noted that the New Jersey fertility rates were lower than the national averages, for both whites and non-whites). In this forecast, through the year 2020, the white fertility rate is 1.63 children per woman, while each non-white woman is assumed to produce 1.96 children.

Table 5-3

DOL New Jersey Labor Market Areas	
Area Title	Counties
Atlantic City	Atlantic
Hackensack	Bergen
Long Branch-Asbury Park	Monmouth
Newark	Essex Morris Union Somerset
Camden	Burlington Camden Gloucester
Jersey City	Hudson
New Brunswick-Perth Amboy- Sayreville	Middlesex
Paterson-Clifton-Passaic	Passaic
Trenton	Mercer
Vineland-Millville-Bridgeton	Cumberland
Ocean City-Cape May-Wildwood	Cape May
Flemington	Hunterdon
Lakewood-Toms River	Ocean
Salem	Salem
Newton	Sussex
Phillipsburg	Warren

Source: New Jersey State Data Center

The U5 Census Bureau's "Middle Mortality Assumption" is used as a basis to project deaths in the population. Certain assumptions are made to reflect differences between the model and New Jersey. For example, it is assumed that by the year 2000, New Jersey mortality and the national mortality rates converge. Also, information relating to group quarters was added and held constant through the projection. Finally, migration for the age 65+ population is assumed to follow historical patterns from the period 1970 through 1984, while migration for the other cohorts is determined through employment assumptions concerning the supply of jobs and the demand for workers. Specifically, the difference between employment growth, less available workers, minus an assumed level of unemployment, resulted in the net migration. The net migration then was distributed between the appropriate cohorts.

Historic Migration Projection

Besides the Economic Demographic model, COL also publishes another population estimate calculated using their "Historic Migration" model. This model is similar to the Economic Demographic model, in that it projects population according to a cohort component technique. Base population, fertility, and mortality assumptions are the same for both models. The main difference between this model and Economic Demographic is in the migration projection. While the Economic Demographic projects migration by evaluating employment growth, the Historic Migration Model uses past net migration rates.

projections by the Historical Migration model tend to produce higher figures for the less populated, less dense areas of the State, while the Economic Demographic can be characterized as producing higher numbers for the more developed counties. The difference between the population forecasted by the Economic Demographic model and the forecast resulting from the Historic Migration model amounts to over 800,000 more people (in the Economic Demographic projection) by the year 2010.

Tables 5-4 and 5-5 display the projections for both of DCL's models*

Council on Affordable Housing (CORK)

The Council on Affordable Housing is a State Agency which was created as a result of the State Supreme Court decision requiring that each municipality provide moderate and low income housing units. CCAH is responsible for overseeing the development of statewide moderate and affordable housing*

1* Ibid, p.7

Table 5-4

DOL Economic-Demographic Population Projection					
	1990	1995	2000	2005	2010
Atlantic	224,800	245,100	260,100	272,300	283,200
Bergen	850,300	861,800	878,700	891,900	904,000
Burlington	409,800	437,100	467,200	494,900	521,300
Camden	521,300	555,400	577,200	597,300	616,700
Cape May	98,800	106,600	113,100	119,500	126,300
Cumberland	140,300	147,500	151,500	152,000	149,900
Essex	816,200	794,000	795,500	779,900	762,300
Gloucester	220,100	234,500	249,100	263,500	277,400
Hudson	561,800	560,100	548,100	528,500	507,300
Hunterdon	98,000	104,500	113,000	121,900	131,000
Mercer	338,600	361,400	387,000	409,700	429,600
Middlesex	653,600	690,600	726,600	760,800	791,800
Monmouth	547,200	568,100	591,600	611,300	630,600
Morris	447,100	479,900	510,500	540,800	570,500
Ocean	413,300	449,600	484,400	515,800	545,900
Passaic	465,000	468,600	469,100	466,500	462,000
Salem	67,500	69,400	71,000	72,100	73,100
Somerset	227,700	246,600	261,200	273,500	285,400
Sussex	131,300	146,100	159,600	172,900	185,700
Union	520,600	534,500	539,700	540,900	540,000
Warren	88,800	92,700	96,200	96,300	101,900
New Jersey	7,842,300	8,154,000	8,450,300	8,685,200	8,895,700

Source: New Jersey Dept of Labor

Population Projections for New Jersey and Counties 1990 to 2020
November 1985

Table 5-5

DOL Historic Migration Population Model					
	1990	1995	2000	2005	2010
Atlantic	215,200	226,300	236,000	243,500	249,300
Bergen	826,000	815,600	804,200	784,600	757,500
Burlington	411,500	439,600	465,000	483,900	496,500
Camden	502,400	517,300	529,500	537,300	542,500
Cape May	103,500	115,200	126,400	136,600	146,500
Cumberland	138,500	142,800	146,700	149,200	150,800
Essex	813,800	800,100	785,000	764,300	740,400
Gloucester	219,200	230,300	239,900	246,900	252,300
Hudson	545,700	538,000	530,700	522,200	513,300
Hunterdon	101,100	108,800	115,500	120,200	123,400
Mercer	317,500	319,300	320,300	318,700	315,200
Middlesex	633,900	646,300	655,600	657,400	652,300
Monmouth	555,100	576,400	591,600	597,300	596,300
Morris	430,900	439,500	443,600	440,300	431,500
Ocean	442,100	501,900	561,200	615,100	665,400
Passaic	459,000	459,600	458,400	453,800	447,400
Salem	68,000	69,600	70,900	71,400	71,500
Somerset	215,900	220,000	221,500	219,300	214,600
Sussex	135,200	151,200	167,400	181,800	194,600
Union	496,000	491,200	486,000	476,600	464,200
Warren	89,500	92,900	95,700	97,500	98,400
New Jersey	7,719,900	7,902,100	8,051,100	8,117,800	8,124,000

Source: New Jersey Dept of Labor
Population Projections for New Jersey and Counties 199Q to 202Q
 November 1985

Regions

The Council on Affordable Housing has adapted the Mount Laurel Busing Region County Groups as defined by Rutgers University Center for Urban Policy Research. In the Rutgers report, regional groupings were defined, based upon commuting patterns and on an analysis of a computer model designed to statistically identify counties with shared characteristics. From these programs evolved the identifications of six preliminary regions. To these final groupings, adjustments were made to "grandfather" several communities. This was done in some cases where commuting patterns would slightly place them in another region, and in some cases where commuting patterns were close. The resulting COAH regions, displayed in exhibit 5*1, are very close to the MSA groupings of the Census

²
Bureau.

* Forecast

COAH uses the New Jersey Department of Transportation Historic Migration Model to calculate future housing need. ZTR figures are taken from the Historic Migration model as published in the November 1985, COH publication

•Population Projections 1990 - 2020" .

Office of State Planning

The Office of State Planning was created in 1986 when Governor Kean signed the State Planning Act. The Office of State Planning is responsible for developing a plan to guide the future growth in the State of New Jersey, and other State-wide planning activities.

* Regions

The Office of State Planning (OSP) has divided the State into five regions, each containing about the same numbers of counties. These regions were created for strictly administrative reasons.

* Forecasts

Office of State Planning does not produce its own population projections, nor does it have an officially designated "preferred" growth estimate*

2. Robert V* Buxchell, V. Patrick Beaton, and David Ldstokin, Mount Laurel II - Challenge and Delivery of LOT COST HOUSING, Rutgers University Center for Urban Policy Research, New Brunswick, New Jersey, 08903, New Brunswick, New Jersey. ff>. 32-172 and 190-193.

3. msno call to CQRH 9/20/88

THE MOUNT LAUREL HOUSING REGION COUNTY GROUPS

Region 1 • Northeast

Bergen
Hudson
Passaic

Region 2 • Northwest

Essex
Morris
Sussex
Union

Region 3 • West Central

Huntardon
Middlesex
Somerset
Warren

Region 4 - East Central

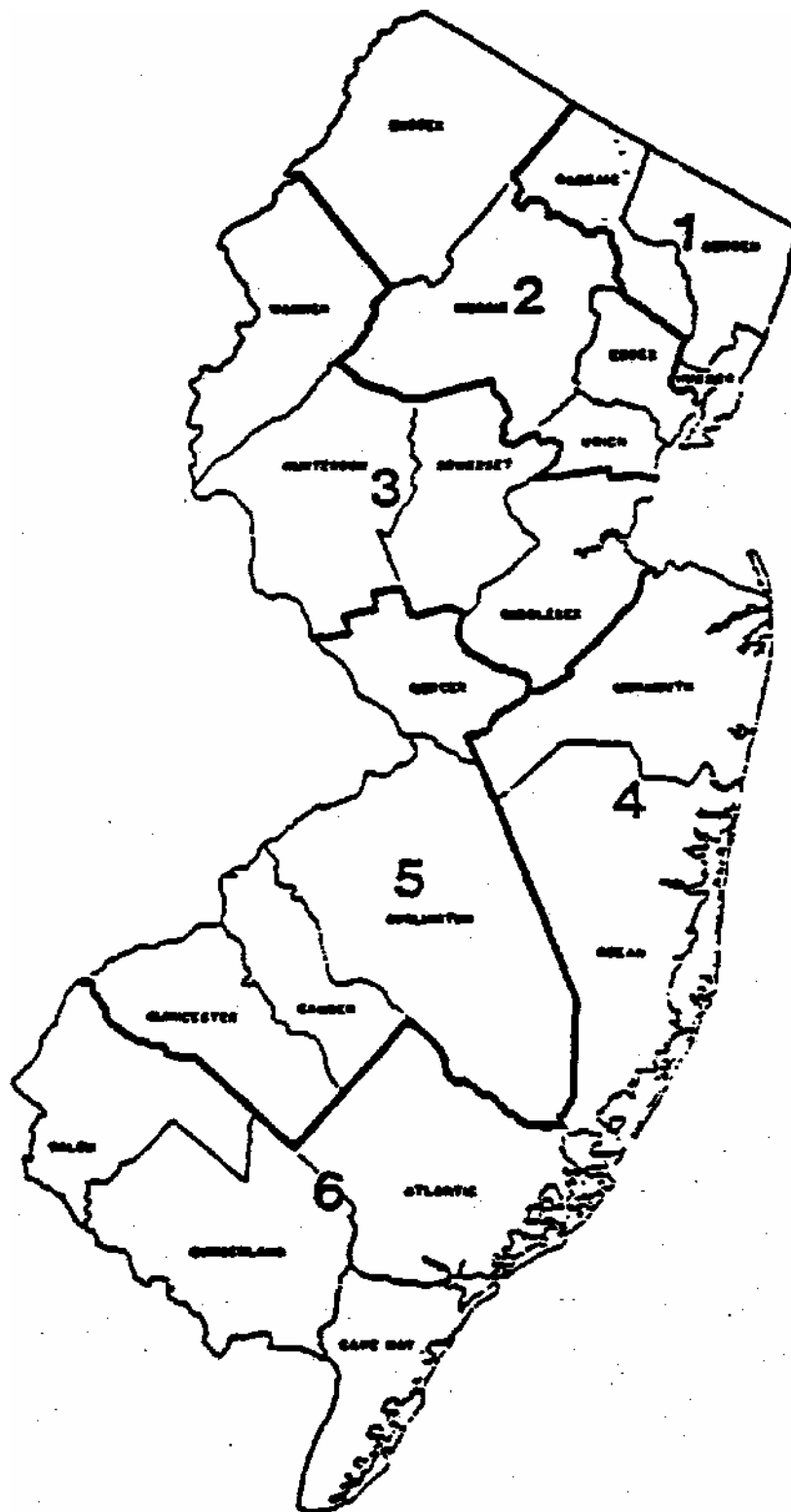
Monmouth
Ocean

Region 5 - Southwest

Burlington
Camden
Gloucester
Mercer

Region 6 * South-Southwest

Atlantic
Cape May
Cumberland
Salem



Source: New Jersey Council on Affordable Housing

Department of Environmental Protection

The Department of Environmental Protection administers and regulates a wide variety of services, all of which pertain to the protection and enhancement of New Jersey's natural resources. Within the Department/ the Water Resources Division, among others, utilizes population projections to forecast water and sewer demand. This Division has had consultants prepare population estimates in the past.

* Regions

Department of Environmental Protection divided the State of New Jersey into regions for the 1982 Water Supply Master Plan. These regions are primarily delineated by major river basin watershed boundaries. Because the boundaries of these regions in some cases follow features, rather than political boundaries, such as county boundaries, they have not been included for further discussion in this report.

* Forecast

The Department of Environmental Protection has not produced a new consolidated population projection for all of the 6 CEP Water Supply regions since the forecast for the 1982 Master Plan. The CEP currently uses the DDL Economic Demographic model for population and employment

⁴
projections in their feasibility studies.

New Jersey Department of Transportation

In its current form, the New Jersey Department of Transportation was created by the Transportation Act of 1966. NJDOT has the legislated authority to develop and maintain the State Transportation Plan and system.

. Regions

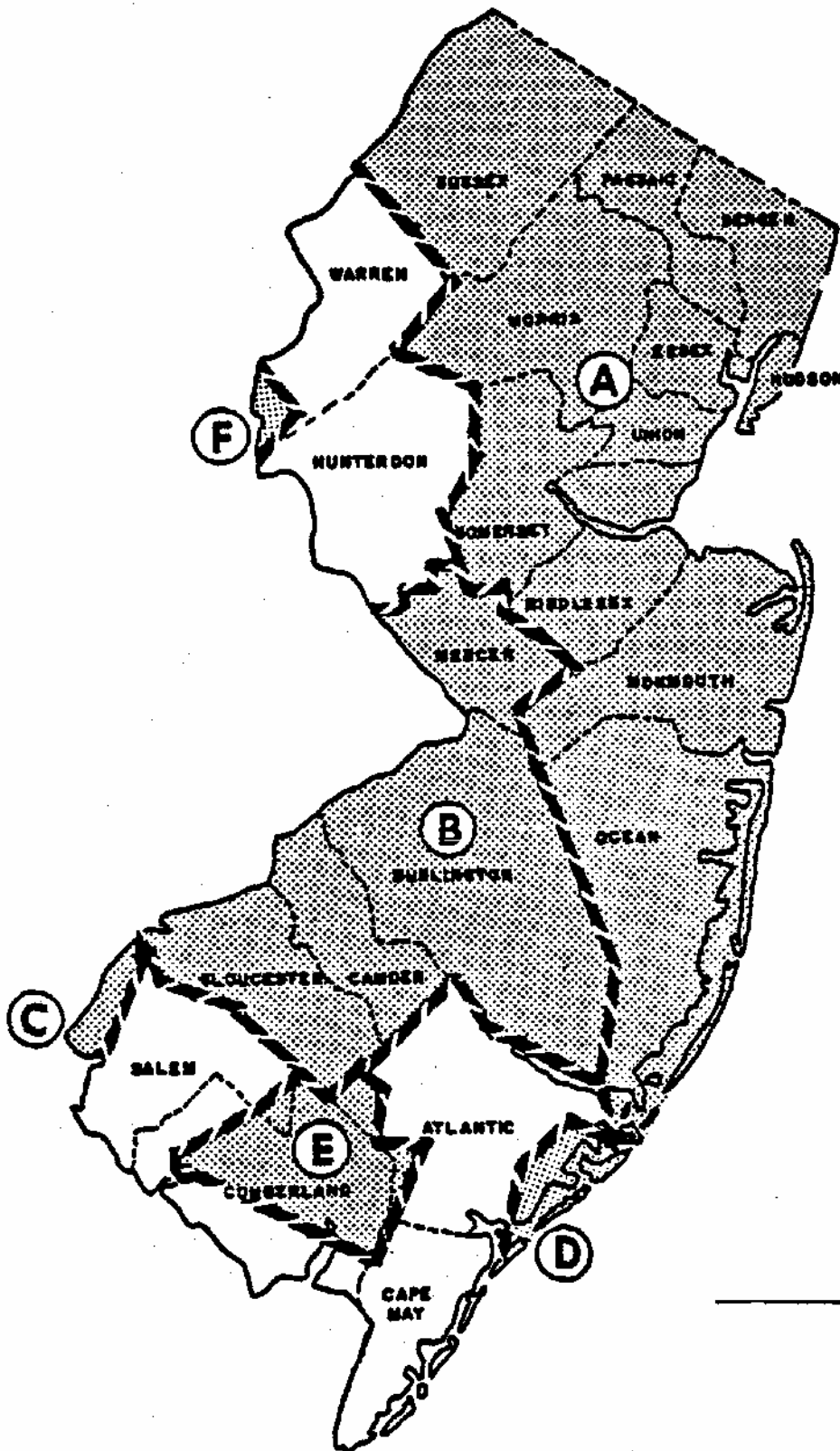
The State has been divided in several ways within the Department of Transportation. Three different regions, created for separate DOT functions, are included in this report. The three regions are: Systems Design, Metropolitan Study Areas, and System Planning.

State System Design Regions are used by DOT engineering and operations for design projects. There are four regions defined in this

4. State of New Jersey Department of Environmental Protection Division of Water Resources, Ple New Jersey Statewide Water Supply Master Plan, Trenton, New Jersey, April 1982T

NEW JERSEY URBAN AREA

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Coordinating Council
NJTCC

B.
Planning Commission -
OVRPC

C Wilmington Metropolitan
Area Planning Coordinating
Council (Salem County Urban
Area Transportation Study) •
W1LMAPCO

D. Atlantic City Urban Area
Transportation Study

Council - ACUATC

**E. Cumberland County Urban
Area Transportation Study •
CCUATS**

**F. Phillipsburg Urban Area
Transportation Study -
PUATS**

Source: New Jersey Department of Transportation

system. The Department of Transportation also has the State of New Jersey divided into Metropolitan Study Areas. These study areas are used by DOT'S planners to estimate traffic and public transit needs and to then identify needed transportation system improvements. Currently there exist 6 MPA's as shown in Exhibit 5-2.

Finally, the Division of Transportation Systems Planning works with both of the two previously described systems, depending on the needs of the project, as well as a regional system which divides the State into three regional transportation planning and modeling areas. These regions are North Jersey, South Jersey, and Delaware Valley Regional Planning Contrission*

NJ DOT Population Projection					
	1990	1995	2000	2005	2010
Atlantic	229,500	251,115	278,520	298,089	317,670
Bergen	896,066	924,869	949,152	966,497	983,842
Burlington	400,500	426,300	473,900	507,900	541,900
Camden	502,533	522,846	556,768	580,998	605,228
Cape May	86,433	88,892	91,636	93,596	95,556
Cumberland	137,633	140,330	142,640	144,290	145,940
Essex	802,433	774,869	752,959	737,309	721,659
Gloucester	226,633	243,777	270,209	289,089	307,969
Hudson	537,446	526,307	516,563	509,603	502,643
Hunterdon	103,066	113,046	128,068	138,798	149,528
Mercer	331,833	345,777	359,616	369,501	379,386
Middlesex	667,500	710,184	758,372	792,792	827,212
Monmouth	530,933	550,361	589,288	617,093	644,898
Morris	453,266	480,600	512,100	534,600	557,100
Ocean	384,500	409,330	448,740	476,890	505,040
Passaic	449,066	449,215	445,127	442,207	439,287
Salem	66,300	67,353	69,124	70,389	71,654
Somerset	236,900	257,715	285,120	304,695	324,270
Sussex	136,700	150,369	173,952	190,797	207,642
Union	516,066	521,192	514,843	510,308	505,773
Warren	88,133	90,476	93,808	96,188	98,568
New Jersey	7,783,466	8,044,930	8,410,540	8,671,690	8,932,840

Source: New Jersey Department of Transportation, and
Hammer, Slier, George, Associates.

* Projections

The most recent projection for each of the counties of New Jersey, was published by KJDOT in "Technical Paper ROUTE 1 CEMQStHBC PROJECTIONS PCPULATICN AND EMPLOYMENT IN 2005." We projections were prepared by evaluating DOL's Economic Demographic and Historic Migration models. County growth estimates then were reviewed by appropriate county and local agencies. These reviews formed the basis for adjusting the DDL projections. The following table displays the "Route 1" projections.

estimates for the year 2010 were developed by a consultant to the Office of State Planning and are not part of the original DOT projection. The OSP consultant prepared the 2010 estimate by trending the actual COT estimates for 1990 and 2000.

Currently, it is the DOT position that the "Route 1" forecast should not be used by the State Planning Commission in the Development and Redevelopment Plan because better population and employment projections are available, such as the COL Economic and DaigLajfoin model.

Wharton Econometric Forecasting Association (WEFA)

The WEFA Group is a private firm based in Bala Cynwyd, Pennsylvania that produces State and Metropolitan Area Economic Forecasts.

* Regions

Population projections are available for states and for Census MSAs, but not for counties. WEFA does not produce any regions of its own.

* Forecast

WEFA uses a cohort component technique for the "aging" of the population, and links migration to economic factors. In this way the birth, death and net migration components of the cohort survival model are accounted for. The birth component of the model cores from the Census "Middle Series" Projection. Information relating to age - sex mortality was supplied by the National Center For Health Statistics.

One WEFA Forecast was constructed by revising Census estimates. Net migration then was forecasted as a result of economic forces, according to the belief that net migration/lagged population is a function of change in relative ertployment or relative unemployment rates, relative zeal per

capita income, relative housing costs, and housing market activity. WEFA limits the horizon of its forecasts, so that only the 1995 forecast is displayed in the following table.

Table 5-7

The WEFA Group Population Projection			
Metropolitan Statistical Area	1988	1989	1990
Bergen - Passaic	1,315,600	1,323,700	1,327,400
Jersey City	561,700	563,200	564,500
Monmouth - Ocean	972,400	991,900	1,011,500
Middlesex-Somerset-Hunterdon	960,100	970,800	979,600
Newark	1,895,500	1,902,900	1,910,400
Atlantic City	317,500	322,500	327,500
Trenton	319,200	320,900	322,500
Vineland-Millville-Bridgeton	134,400	134,800	135,200
Sum of Metro Areas	6,476,400	6,530,700	6,578,600

Source: The WEFA Group - Regional Economics Service
Third Quarter 1987

Weeds and Poole Econometrics

Woods and Foole Economics Inc. is a Washington D.C. consulting firm specializing in economic and demographic forecasting models. The firm claims to maintain a data base with over 300 economic and demographic variables for every county in the Nation covering the years 1960 through 2010. This information is used for county level modeling and projections.

6. The WEFA Group, Structure and Methodology State and Metropolitan Area Forecasts, Balacynwyd, Pa., 1987.

Table 5-8

Woods & Poole Population Projection					
	1990	1995	2000	2005	2010
Atlantic	272,320	364,580	443,210	523,020	587,870
Bergen	890,940	950,580	986,420	1,014,420	1,038,160
Burlington	429,730	472,570	509,460	546,280	576,010
Camden	521,190	549,320	567,310	582,540	594,540
Cape May	96,250	100,680	105,590	111,560	115,250
Cumberland	136,670	138,710	141,150	143,670	146,150
Essex	804,310	792,520	777,070	764,730	756,160
Gloucester	227,710	240,060	250,940	260,100	266,510
Hudson	531,700	510,850	499,920	489,780	480,190
Hunterdon	105,790	118,040	127,480	135,400	140,780
Mercer	342,130	373,240	399,420	426,860	443,810
Middlesex	679,400	748,260	806,720	855,420	892,820
Monmouth	557,320	583,320	602,850	627,150	640,620
Morris	494,170	584,770	653,280	712,370	760,830
Ocean	425,630	465,760	504,930	549,960	571,300
Passaic	446,360	440,820	437,330	433,570	431,400
Salem	75,930	87,120	98,130	107,960	115,420
Somerset	248,010	292,920	330,760	364,430	391,290
Sussex	127,660	131,470	135,070	138,540	140,430
Union	501,290	506,230	509,360	511,830	516,420
Warren	90,090	93,650	97,370	100,830	103,720
New Jersey	8,004,620	8,545,460	8,983,740	9,400,420	9,709,680

Source: Woods & Poole Economics, Inc.

* forecasts

Employment and earnings are projected and become the principal variables to establish households and population. The projected population is further refined by age, sex, and race on the basis of net migration rates projected from employment opportunities. The economic areas are then linked together to capture regional flows to measure how changes in one area affect growth or decline in another region. To avoid unusually high or low regional projections, the forecasts then are adjusted to total a national forecast, which Woods and Poole has pre-determined to be accurate.

Sub-State Population Estimates

Middlesex, Somerset, Mercer Regional Council Inc.

The Middlesex Somerset Mercer Regional Council Inc. (MSM) produces and examines various planning topics that are relevant to the growth of Middlesex, Somerset, and Mercer counties.

* Forecasts

THE MSM Regional Council in its publication, Regional Forum An Action Agenda For Managing Regional Growth, selected the NJDOT projections for the year 2005. MSM, however, does not have an official projection.

Delaware Valley Regional Planning Commission

Delaware Valley Regional Planning Commission (DVRPC) is an inter-State agency that plans for the growth and development of the area known as the Delaware Valley, which includes the Pennsylvania counties of Chester, Montgomery, Bucks, Delaware, and the New Jersey counties of Mercer, Burlington, Camden, and Gloucester. DVRPC conducts various planning services for member government agencies including: the development of a long range plan, the provision of data services, and the provision of other types of technical assistance to the public and private

7
sector.

7. Year 2010 Planning Process Proposed Work Proposal, DVRPC June 1987.

* Forecast

DVRPC in 1987 produced a 2010 forecast for each of the counties in its region based upon a cohort survival model. In preparing the forecast, county specific fertility and mortality rates were used. In the DVRPC model, two migration components were used for the population forecast* These were the strength of the region's economy and the momentum of current migration patterns. With this in mind, it is important to note that DVRPC assumed that the growth rates of all counties in its region would reduce by half each decade (except for Philadelphia and Burlington after the year 2000). Further, DVRPC used the net migration rate from 1980 through 1986 as a constant in its forecast.

Table 5-9 displays the DVRPC population forecasts.

Table 5-9

DVRPC Population Forecast					
	1970	1980	1990	2000	2010
Burlington	323,132	362,542	408,600	457,000	494,000
Camden	456,291	471,650	507,920	553,340	589,750
Gloucester	172,681	199,917	221,460	250,590	273,130
Mercer	303,968	307,863	330,290	361,910	386,000
Total	1,256,072	1,341,972	1,468,300	1,622,800	1,742,900

Source: Resolution of the Delaware Valley Regional Planning Commission
Adopting Year 2010 Population and Employment Forecasts for the
Nine-County, Bi-State, Delaware Valley Region

The Port Authority of New York and New Jersey (PANYNJ)

The Port Authority of New York and New Jersey is another inter-State planning agency. In addition to providing planning, the Port Authority owns and operates marine facilities in both states and operates commuter rail, bus, and airport

The Port Authority forecasts population and employment changes for the New York - New Jersey Metropolitan Region. The Port Authority Region consists of the five counties including New York City, the four suburban counties of Rockland, Westchester, Nassau, and Suffolk in New York State, and the following eight counties of Northeastern New Jersey* Bergen, Essex, Hudson, Middlesex, Morris, Passaic, Somerset, and Union.

* Forecast

The forecast by the Port Authority of New York and New Jersey uses a cohort survival model, in which regional assumptions for birth, death, and migration are made for each five-year-age-race cohort. Fertility rates are calculated regionally using a technique developed by the Census Bureau that projects birth by race and sex. Death rates are derived from survival rates for the state of New Jersey and applied to the region as a whole.

In calculating migration rates, the Port Authority examines the existing migration, the projected labor force and estimates of future housing stock. The PANYNJ forecast for 1990 and 1995 also assumed that whites would continue to outmigrate and non-whites would continue to in-migrate.

Table 5-10

The Port Authority of NY & NJ				
	1970	1980	1990	1995
Bergen	897,000	845,000	885,000	899,000
Essex	933,000	851,000	845,000	841,000
Hudson	608,000	557,000	569,000	584,000
Middlesex	584,000	596,000	700,000	743,000
Morris	383,000	408,000	458,000	480,000
Passaic	461,000	448,000	468,000	472,000
Somerset	198,000	203,000	248,000	279,000
Union	543,000	504,000	516,000	521,000
NJ Sector	4,607,000	4,412,000	4,689,000	4,819,000
1970 and 1980 from US Census				

Source: The Port Authority of New York and New Jersey
A Forecast of Employment Labor Force and Population
In the New York-New Jersey Region to 1995 April, 1986

New York Hetroopolitan Transportation Council (NYKTC)

New York Hetroopolitan Transportation Council (MTC) performs transportation related projects for New York City and the 5 adjacent counties of Nassau, Putnam, Rockland, Suffolk, and Westchester. Besides the NBGC area, population and employment projections are -generated for Dutchess and Orange County In New York, six planning regions in Connecticut, and the NEW Jersey Counties of Passaic, Bergen, Harris, Essex, Hudson, Union, Somerset, Middlesex, and Itonmouth. MIC believes that projections for New Jersey and Connecticut are noodcd because both States are part of the cohesive metropolitan region.

* Forecast

The MIC region's future population was projected through the use of the Age Cohort Population Projection Model. A projection for New York City and a projection for the rest of the region were produced with data relating to birth, death, and migration. Data regarding trends of the 1980 's were applied to the age-sex characterists of the 1970-80 migration pattern, to account for net migration. After making the regional projection, the State data was used as a control mechanism for
8
disaggregating the population to counties.

The population projections for the New Jersey counties were based on data from the New Jersey Department of Tflhnr 1985 publication Population Projections For New Jersey' and Counties; 1990 to 2020. Exceptions were that the ftidson County 1990 projection came only from the DCL Economic Demographic estimate, and the substitution of the Port Authority of New York and New Jersey projection for Essex County. This population projection data, summed with data from the New York State Department of Commerce and Connecticut Office of Policy and Management, was compared with the MIC regional projection and used as a control to estimate county population projections.

Table 5-11 displays the MIC forecasts for the New Jersey porting of their region.

8. New York Hetroopolitan Transportation Council, Demographic Projections: 1980-2015. New York, March 1987., K». 1*40

Table 5-11

NYMTC Population Projection					
	1990	1995	2000	2005	2010
Bergen	850,300	861,800	878,700	891,900	901,300
Essex	845,000	835,000	836,000	819,100	800,400
Hudson	561,800	570,000	576,600	579,400	580,600
Middlesex	653,600	690,600	726,600	760,800	778,700
Monmouth	547,200	568,100	591,600	611,300	623,300
Morris	447,100	479,900	510,500	540,800	557,400
Passaic	465,000	468,600	469,100	466,500	462,000
Somerset	227,700	246,600	261,200	273,500	280,200
Union	520,600	534,500	539,700	540,900	540,000

Source: New York Metropolitan Transportation Council
Demographic Projections 1980 • 2015 March, 1987

CHAPTER VI

Analysis of the Future 1995 to 2010

Introduction

The purpose of this chapter is three-fold. First, -this chapter examines how the forecasts presented in the proceeding chapter agree and/or disagree with respect to population changes in New Jersey. It should be evident from the previous chapter that technical differences in forecasting methods, and the differing demographic assumptions which might be Incorporated into each model, have resulted in projection differences. Xt therefore might be more important to understand growth trends rather than paying strict attention to numerical differences.

Secondly, the chapter tries to identify, from the forecasts, the consensus directions of regional population changes. Finally, it examines the characteristics of the future population, as forecasted in the DOL Economic and Demographic model.

The Direction of Future Growth

Table 6-1 presents the statewide population estimates described in, the preceding chapter of this report.

Table 6-1
STATEWIDE POPULATION ESTIMATES
1995 TO 2010

<u>Source</u>	1995	2000	2005	2010	Growth 1985-2020
Census Bureau	8,252,000	8,546,000	N/A	8,950,000	1,387,518
NJ DOL Eco. Demo.	8,154,000	8,450,300	8,685,200	8,895,700	1,333,218
NJ DOT (RT.1)	8,044,930	8,410,540	8,671,690	8,932,840	1,370,358
DOL Historic Mig.	7,902,100	8,051,100	8,117,800	8,124,000	561,518
Woods & Poole	8,545,460	8,545,460	9,400,420	9,709,670	2,147,188

Compared to the 1985 estimated statewide population of 7,562,482 persons, all of the forecasts estimate that the State will continue to grow. The lowest growth forecast, the DCL Historic Migration model, estimates a population increase of 561,518 (or 7.4%) in the 25 years following the 1985 estimated State population. The most vigorous estimate, by Woods & Poole, forecasts an increase of 2,147,188 persons, for a 25 year growth rate of 28%.

While the forecasts differ in the overall rate and magnitude of growth/ they all foresee a slowing of growth through the forecast period. Table 6-2 displays only the population changes for specified periods of time and the corresponding rate of growth for that time period. In the 1995 column, the population change was derived by subtracting the estimated 1985 base population from the forecasted 1995 population. For all of the other years, the new forecast was subtracted from the proceeding 5 year benchmark estimate (e.g. year 2005 increase * year 2005 estimate - year 2000 estimate). The percentages of increase are based on the corresponding interval, except in the year 2010, where 5 year and 10 year rates of increase are shown.

Table 6-2
POPULATION INCREASES
1985 TO 2010

Forecast	1995		2000		2005		2010		
	Increase		Increase		Increase		Increase		%
	%		%		%		%		
Census	689,518	9.1	294,000	3.6	N/A	N/A	5yr. N/A		
							10yr. 728,000		8.8
DOL Eco-Demo	591,518	7.8	296,300	3.6	234,900	2.8	5yr. 210,500		2.4
							10yr. 445,400		5.3
DOL HIST. M16	339,618	4.5	149,000	1.9	66,700	.8	5yr. 6,200		.08
							10yr. 72,900		.9
Woods & Poole	982,978	13	438,280	5.1	416,680	4.6	5yr. 309,250		3.3
							10yr. 725,930		8.1

As displayed in Table 6-2, during the next 25 years the most consistent growth rates are shown in the Census forecast, which projects that the decennial (1985 to 1995) rate of 9.1% will slow to a rate of 8.8% between the years 2000 and 2010. The biggest decrease in the rate of population growth can be found in the Woods & Poole forecast. This forecast estimates that the 13% rate of growth expected during the period 1985 to 1995 will not be maintained. By the cferadp 2000 to 2010, Woods and Poole estimate that the State's rate of growth will have decreased to 8.1%* The most dramatic growth rate declines, however, are displayed in the DOL forecasts. While the Economic-Demographic model modestly slows from 7.8% to 5.3%, the Historic Migration model drops from 4.5% in 1985 - 1995 to an estimated rate of increase of only .9% during the period 2000 to 2010.

As a point of comparison, both Woods & Poole and the Census also produce national population forecasts. The Census forecasts national growth rates of 7% (1985-1995) and 8.6% (2000 to 2010). Woods & Poole's forecast for the same periods are 12.6% and 7.7%.

It is clear that none of the statewide forecasts support a continuation of New Jersey's historic double digit growth rates. This suggests that immigration will not be as robust as it had been during most of the State's history, when decennial growth rates of 20% to 30% were common (except for the years of the Great Depression and the most recent census years of 1970-1980).

To better understand the models' assumptions concerning migration, the following table compares the forecasts to a very special and hypothetical population forecast model called the Zero Migration model. The Zero Migration model is published by the Department of Labor for comparison purposes. This model is not a forecast or projection of what will happen in

Table 6-3
ANALYSIS OF FORECASTED POPULATION MIGRATION
1995 TO 2010

Forecast	1995	2000	2005	2010
Zero Migration	7,803,700	7,888,700	7,906,300	7,880,400
US Census	8,252,000	8,546,000	n/a	8,950,000
Diff 0 Mig	448,300	657,300	n/a	1,069,600
Diff prior period		209,000	n/a	n/a
DOL Eco. Demo.	8,154,000	8,450,300	8,685,200	8,895,700
Diff 0 Mig	356,300	561,600	778,900	1,015,300
Diff prior period		211,300	217,300	236,400
DOL Hist. Mig.	7,902,100	8,059,100	8,117,800	8,124,000
Diff 0 Mig	98,400	170,400	211,500	243,600
Diff prior period		72,000	41,100	32,100
DOT Rt. 1	8,044,930	8,410,540	8,671,690	8,932,840
Diff 0 Mig	241,230	521,840	765,390	1,052,440
Diff prior period		280,610	243,550	287,050
Woods & Poole	8,545,460	8,983,740	9,400,420	9,709,670
Diff 0 Mig	741,760	1,095,040	1,494,120	1,829,270
Diff prior period		353,280	399,080	335,150

Sources ;Population Projections for New Jersey and Counties 1990 to 2010; K3DQU November 1985? US Census; 1987"State Profiles, KJ/NY, Woods & Poole Economics

the future, but is used for comparison purposes. It assumes that no one leaves their New Jersey home to move either out of State or to another location in the State. It further assumes that no one migrates into the State. This model, like the DOL Economic Demographic Model, is a cohort component model with age-sex-race specific fertility rates. In this model, net migration is set to zero.

In table 6-3 any difference between the population estimated by the Zero Migrating model and the other forecasts has been assumed to be the result of in-migration. Population differences also might be due to different assumptions concerning fertility, and to different assumptions concerning the cohort composition of the State.

If the trends and assumptions incorporated into the Zero Migration model are correct, then little natural increase in the population is expected during the forecast period. This is shown by the fact that the total population forecasted by the Zero Migration model changes very little from 1995 to 2010. Such stagnation suggests that fertility and mortality are balanced. However, given the historic decline in fertility, it is likely that the decline in children is being offset by increased life expectancy for the elderly.

Secondly, all of the models show in-migration continuing. The least in-migration is found in the Historic Migration model, while the largest number of in-migrants are projected in the Woods and Poole forecast. The category "Diff prior period", shows the increment of in-migration anticipated for the years 2000, 2005 and 2010. For all of the models it can be seen that the number of new migrants tends to be relatively constant. For example, the Woods and Poole model shows in migration of between 399,080 and 335,150 per five year period. Only the Historic Migration model displays declining amounts of in-migration.

One last observation that can be made from this analysis is to note the hypothetical nature of the projections and the delicate nature of projected growth in the State. For a variety of reasons, the State's population is only sustaining itself. If larger families become popular, then a natural increase will be real. However, if current conditions continue, then the State's population can sustain itself only if in-migration continues at a rate higher than that exhibited during the 1970's. The presumption that the growth of jobs in the State will produce growth in State population seems less likely as the growing suburbs of the State approach Pennsylvania, and the costs of living and housing in the State remain high. One State's Interstate highway system can also serve re-located New Jerseyans, still working in the State but living outside the State.

Demographic Characteristics of the Future Population

This section describes the characteristics of the future population foreseen in the DOL Economic Demographic model. This model was chosen for this analysis for the following reasons: the richness of the data in relation to age, race, and sex; the precise methodology; and, the fact that the Economic Demographic projection is used as the basis for several other forecasts.

Age

The age cohorts projected by the Economic Demographics model for the years 1995, 2000, 2005 and 2010 are presented in Table 6-4.

Table 6-4
DOL ECONOMIC DEMOGRAPHIC MODEL AGE COHORTS
1995, 2000, 2005 AND 2010

Age Cohort	1995	2000	2005	2010
<5	507,430	484,760	461,700	454,420
5 to 9	516,380	519,550	497,520	475,480
10 to 14	498,650	527,480	530,900	507,980
15 to 19	497,890	517,480	547,360	555,170
20 to 24	526,940	495,820	516,000	549,220
25 to 29	621,410	538,550	507,260	533,400
30 to 34	736,680	686,800	599,550	573,410
35 to 39	698,670	765,180	715,490	628,030
40 to 44	637,700	704,340	772,400	720,950
45 to 49	576,950	633,670	699,710	767,530
50 to 54	466,680	567,560	623,060	687,910
55 to 59	370,440	451,740	549,110	603,160
60 to 64	344,570	352,110	428,950	521,840
65 to 69	345,670	314,170	320,850	389,920
70 to 74	304,280	302,590	275,090	280,510
75 to 79	227,660	252,720	251,010	228,200
80 to 84	150,370	174,280	192,980	191,310
85 +	125,620	161,460	196,220	227,320
	8,154,000	8,450,300	8,685,200	8,895,700

Source: Population Projections for
New Jersey and Counties: 1990 to
2020, Vol 2, DOL, November 1985

In summary table 6-5 (which was prepared using data from Table 6-4), selected age grouping have been identified, and the percent of the total population represented by these selected groups also is presented.

Table 6-5
SUMMARY DATA DERIVED FROM THE DQL
ECONOMIC AND DEMOGRAPHIC FORECAST 1995 TO 2010

Age Group	1995		2000		2005		2010	
	number	%	number	%	number	%	number	%
5 to 19	1,512,920	18.5	1,564,510	18.5	1,575,780	18	1,538,630	17.3
65 +	1,153,600	14.1	1,205,210	14.3	1,236,150	14.2	1,317,250	14.8
20 to 64	4,980,050	61	5,195,820	61.5	5,411,570	62.3	5,585,400	62.8

Several observations can be made from the data in tables 6-4 and 6-5. First, the number of children aged less than ten decreases throughout the forecast period. This is due, in part, to the continued low fertility rates established in the 1960's, as well as the fact that the number of women in their child bearing years also has declined.

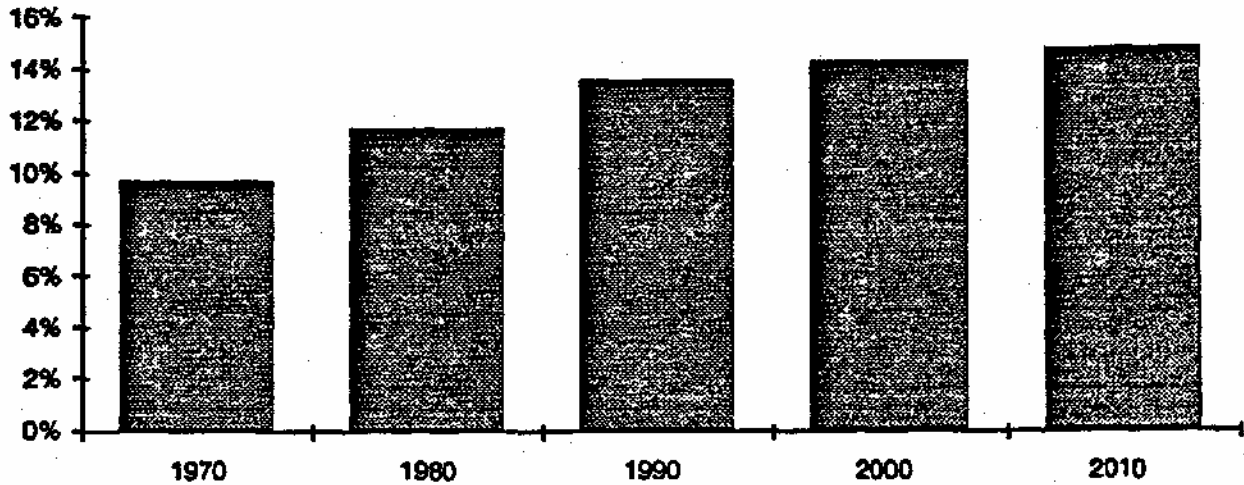
Despite the constant decline in the number of young children, the State's school aged population remains fairly constant through the year 2010. If the school age population is represented by the age grouping 5 to 19 in Table 6-5. This probably is the result of immigration of households with school aged children.

The number of elderly persons is increasing both in numbers and as a percent of the total State population (see Charts 6-1 and 6-2). Because the DQL forecasts were based on estimates of population for each of the State's counties, (these tables are presented in Appendix A of this report), the estimated locations of these senior citizens has been established. In 2010 Ocean County will contain the largest population of senior residents of any county in the State, the next largest population of seniors will be in Bergen, Monmouth and Middlesex counties. Also, Middlesex and Monmouth will have doubled their senior populations, while Essex and Hudson will have a decreased senior population. The counties with the least numbers of seniors will be Sussex, Hunterdon, Warren, and Salem counties.

With the exception of Atlantic and Hudson Counties, the percentage of the senior population to the total population (2010) will either remain the same or increase. Counties with the highest ratio of senior citizens to total population in 2010 will be Ocean, Cape May, Burlington, Cumberland, Salem, and Warren.

Chart 6-1

Proportion of New Jersey Population Aged 65+ : 1970 - 2010

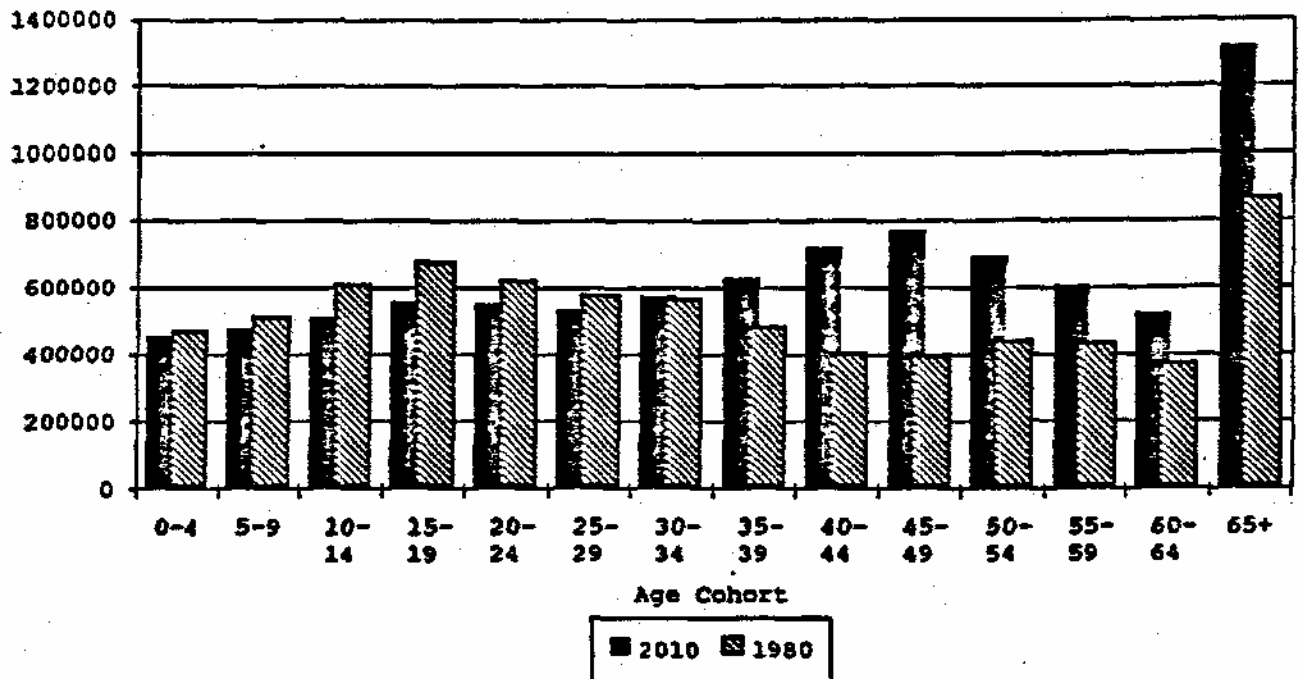


source: US Census 1970, 1980

NJ Dol "Population Projections for NJ and Counties: 1990-2020"

Chart 6-2

Population of New Jersey 1980 and 2010
AGE COHORT COMPARISON



source: US Census 1980

NJ DOL "Population Projections for NJ and Counties: 1990-2020"

Table 6-5 also shows that the portion of the population likely to be most active in the labor force (persons aged 20 to 64), increases throughout the time period. This population increase demonstrates that many persons in this age group are expected to in-migrate to homes in New Jersey.

Counties with the lowest civilian labor force percent increases are Passaic, Bergen, Hudson, and Essex. The range of the percent increase in these counties is 4.11 - 15.26 percent, while the increases for the counties named as having large increases range from 52.77 to 61.41 percent.

Race

New Jersey's population will become even more diversified in the future as growth of non-white has been projected to increase at a faster rate than whites. This will mean increased minority participation as a percent of the labor force and in all aspects of New Jersey affairs. In the detailed reporting of the model's results, data identifying race is reported only to the year 2000. The tables recording this information are included in this report as Appendix B.

The Economic Demographic model projection for 2000 shows a white population of 6,474,600 and a non-white population of 1,975,600. This translates to a 76.6 percent white population and a 23.4 percent non-white population in the year 2000. The county based population estimates produced by the model show that the minority population is expected to continue to be concentrated. Both Hudson and Union are forecasted to have doubled their non-white population compared to the minority population reported in the 1980 Census. Somerset, Middlesex, and Bergen County are expected to increase their non-white population by a factor of three, again compared to their 1980 populations* Essex County will be the only county in New Jersey that has a majority non-white population in 2000. Essex is projected to have 438,800 non-whites and 356,800 whites. Of the counties with the lowest percentage of non-whites will continue to be Sussex, Hunterdon, Warren, Ocean, and Cape May.

Sex

One DOL forecast estimates that females will still be the majority sex, but by smaller numbers than in 1980. In 1980 females totalled 3,831,811 and men totalled 3,533,012, a difference of 298,799. In 2010, the difference is expected to be smaller, with men totaling 4,308,200 and women 4,587,300.

By the year 2010 men will be the majority in all cohorts under age 35 and in the 40-44 age cohort, while females will be the majority in the 35-39, 55-59, 60-64, and 65+ cohorts. The trend indicates that New Jersey will have a future population that will have more males than females in the youngest cohorts and more females than males in the cohort aged 65+.

The projection for 2010 shows that almost all of the counties have a slightly higher female population. The only exceptions to this trend are

Hunterdon and Morris Counties, which are projected to have slightly more men than women.

Migration Assumption in the Forecast and an Estimate of the Location of Growth

The demographic projections by the Department of Transportation are based on an assumption of migration patterns. The effect of the migration patterns on county population becomes visible when the Economic Demographic Model is compared with the Department of Transportation Zero Migration model, described earlier in this chapter. In this analysis, the population forecast by the Zero Migration model is subtracted from the Economic Demographic population estimate. Those counties that show positive differences have been assumed to be growing because of people moving in from other counties in the State or from regions outside of New Jersey. Counties that show negative differences are expected to have outmigration to other counties or to regions outside of the State. The following table displays this analysis.

Table 6-6
COMPARISON OF ZERO MIGRATION MODEL FORECASTS AND
THE ECONOMIC DEMOGRAPHIC FORECAST FOR THE YEAR 2010

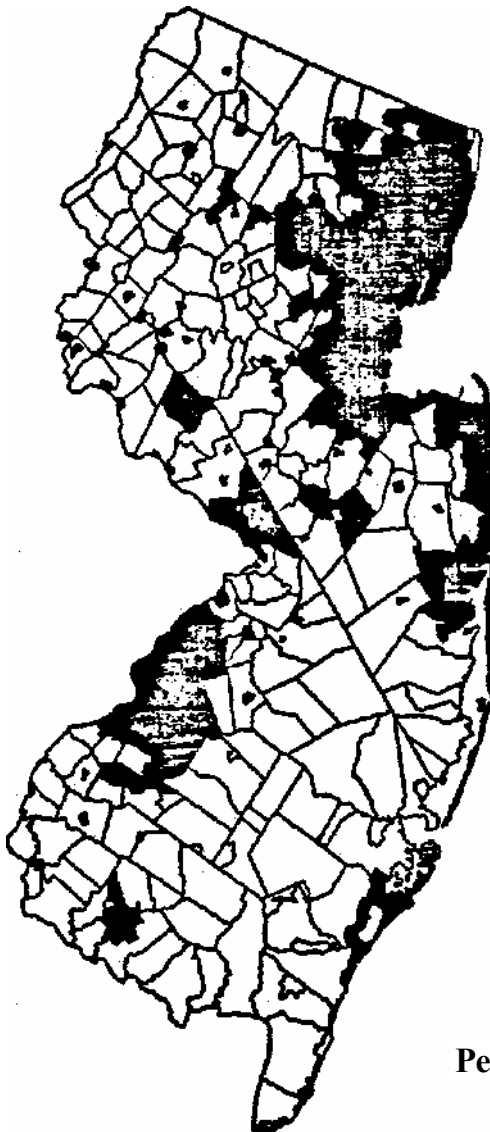
County	Total Population		Difference
	Zero Migration	Econ. Demo	
Atlantic	213,500	283,200	69,700
Bergen	782,500	904,000	121,500
Burlington	419,000	521,300	102,300
Camden	554,100	616,700	107,600
Cape May	89,800	126,300	36,500
Cumberland	153,400	149,900	(3,500)
Essex	897,600	762,300	(135,300)
Gloucester	232,300	277,400	45,100
Hudson	608,200	507,300	(100,900)
Hunterdon	100,000	131,000	31,000
Mercer	324,600	429,600	105,000
Middlesex	625,000	791,800	166,800
Monmouth	549,700	630,600	80,900
Morris	437,700	570,500	132,800
Ocean	379,900	545,900	166,000
Passaic	500,700	462,000	(38,700)
Salem	72,900	73,100	200
Somerset	213,600	285,400	71,800
Sussex	140,100	185,700	35,600
Union	495,600	540,000	44,400
Warren	90,100	101,900	11,800

source: Population Projections for New Jersey and Counties: 1990 to 2020, Vol I, DCL, November 1985

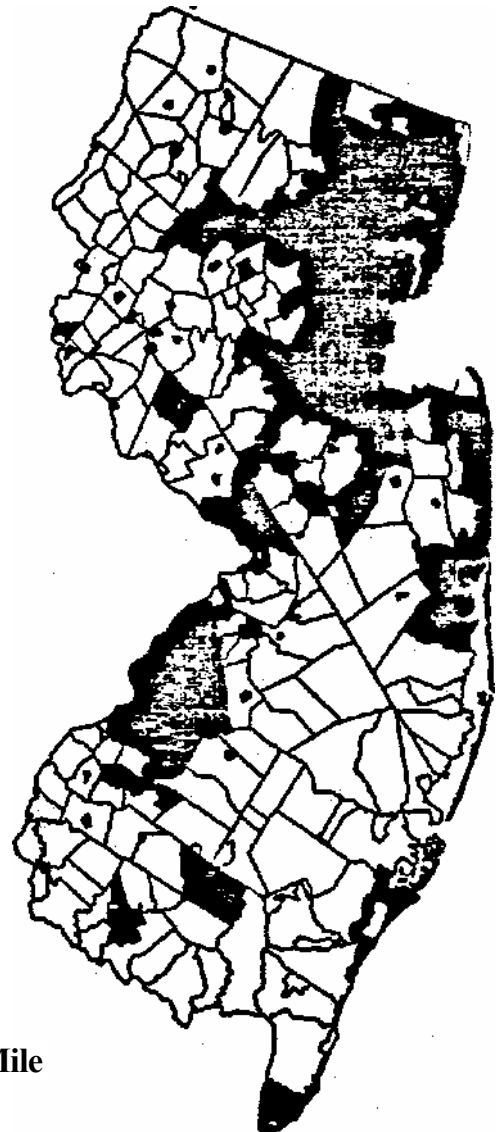
Table 6-6 shows that the counties in the Northeastern part of the State are expected to be effected by out-migration. Essex, Hudson and Passaic counties all exhibit less growth in the Economic and Demographic model than would be the result of the natural increase of their existing populations (the Zero Migration estimate). It also is evident that growth in parts of Southern **New** Jersey is not expected to be much beyond that which would otherwise occur. The Economic Demographic forecast for Cumberland county displays the effect of out-migration. Three thousand and five hundred fewer persons are forecasted in the Economic Demographic projection than are anticipated in the Zero Migration model. Salem county only shows a net difference of 200 more persons in the Economic Demographic forecast.

Hap 6-1 displays possible locations of areas of growth in excess of 1000 persons per square mile, for the years 1985 and 2010. The 1985 mapping was based on the municipal estimates prepared by DDL and published in Population Projections for New Jersey and Counties; 1990 to 2020, Vol. I, published by the New Jersey Department of Labor in November 1985. The map depicting municipalities with 2010 densities of 1000 or more persons was based on estimates produced by the Population Distribution model, prepared by the Office of State Planning and presented to the State Planning Commission in March 1988.

1985 Population Density



2010 Population Density



People/Square Mile

Source: New Jersey Office
of State Plan nine



1 to 1000



1000 to 45423

APPENDIX A

**Projected Population of New Jersey and Counties
by Age Group, 1990 through 2010
DOL Economic Demographic Model**

source:

State of New Jersey Department of labor, Division of Planning and Research, Office of Demographic and Economic Research, Population projections for New Jersey and Counties; 1990 to 2020, Volume 1, Trenton: November 1985, pages 23 to 27.

Table 7 (continued).
 Projected Population of New Jersey and Counties by
 Age Group, 1990 through 2020.

ODEA Economic-Demographic Mode) (Preferred).

	July 1, 1990 Population					
	Total Population	Under 5	5 to 14	15 to 44	45 to 64	65 and over
NEW JERSEY	7,842,300	305,500	956,800	3,626,900	1,507,700	1,065,300
Atlantic County	224,800	14,600	26,100	109,200	41,900	33,100
Bergen County	850,300	43,600	90,100	390,100	199,100	127,300
Burlington County	409,800	27,200	52,500	199,800	85,200	45,100
Camden County	521,300	39,600	74,400	248,900	96,100	62,300
Cape May County	98,800	6,200	11,300	42,000	18,000	21,200
Cumberland County	140,300	10,500	19,300	64,500	27,000	19,000
Essex County	816,200	58,300	109,200	385,900	162,800	100,000
Gloucester County	220,100	16,400	30,800	106,600	41,300	25,100
Hudson County	561,800	40,700	74,900	264,500	110,200	71,500
Hunterdon County	98,000	6,200	12,300	47,100	22,600	9,800
Mercer County	338,600	21,000	39,200	165,700	69,000	43,800
Middlesex County	653,600	36,900	71,900	330,200	123,500	81,100
Monmouth County	547,200	34,200	66,600	249,200	118,500	78,700
Morris County	447,100	26,200	51,000	224,900	99,000	45,900
Ocean County	413,300	26,100	49,400	164,800	68,500	104,400
Passaic County	465,000	32,500	61,500	217,900	91,900	60,200
Salem County	67,500	5,000	9,900	29,400	13,400	9,600
Somerset County	227,700	13,000	25,700	112,000	51,600	25,300
Sussex County	131,300	9,500	18,800	63,300	26,000	13,700
Union County	520,600	31,000	60,600	240,300	113,800	75,000
Warren County	88,800	5,800	11,300	40,500	18,200	13,000

Notes: 1) All projections are rounded to the nearest hundred persons. Numbers therefore may not add due to rounding.

Table 7 (continued).
 Projected Population of New Jersey and Counties by
 Age Group, 1990 through 2020.

ODEA Economic-Demographic Model (Preferred).

	July 1, 1995 Population					
	Total Population	Under 5	5 to 14	15 to 44	45 to 64	65 and over
NEW JERSEY	8,154,000	507,400	1,015,000	3,719,300	1,758,600	1,153,600
Atlantic County	245,100	15,400	28,900	117,700	47,200	35,900
Bergen County	861,800	42,300	92,900	382,400	210,900	133,300
Burlington County	437,100	27,600	55,300	199,500	99,000	55,600
Camden County	555,400	40,700	81,000	259,000	107,900	66,700
Cape May County	106,600	6,400	12,600	44,500	19,800	23,200
Cumberland County	147,500	10,900	20,400	66,100	29,100	20,900
Essex County	794,000	55,200	109,600	365,100	165,200	98,900
Gloucester County	234,500	16,500	32,700	110,000	46,700	28,600
Hudson County	560,100	39,400	77,500	252,800	113,600	70,800
Hunterdon County	104,500	6,400	13,100	47,600	26,500	11,000
Mercer County	361,400	22,600	42,800	171,800	76,100	48,100
Middlesex County	690,600	37,800	74,400	337,600	147,300	93,500
Monmouth County	568,100	32,900	69,200	243,300	132,400	90,200
Morris County	479,900	26,900	54,100	234,100	112,900	51,800
Ocean County	449,600	27,800	52,100	170,500	82,500	116,700
Passaic County	468,600	32,600	64,100	213,200	96,800	61,900
Salem County	68,400	4,800	10,300	28,900	14,700	10,600
Somerset County	246,600	13,400	28,400	119,100	56,600	29,200
Sussex County	146,100	10,700	19,700	67,000	33,000	15,700
Union County	534,500	31,400	63,900	242,400	120,100	76,700
Warren County	92,700	5,900	11,800	40,500	20,400	14,200

Notes: 1) All projections are rounded to the nearest hundred persons. Numbers therefore may not add due to rounding.

Table 7 (continued).
 Projected Population of New Jersey and Counties by
 Age Group, 1990 through 2020.

ODEA Economic-Demographic Model (Preferred).

	July 1, 2000 Population					
	Total Population	Under 5	5 to 14	15 to 44	45 to 64	65 and over
NEW JERSEY	8,450,300	484,800	1,047,000	3,708,200	2,005,100	1,205,200
Atlantic County	260,100	14,100	31,300	119,500	97,300	37,600
Bergen County	878,700	39,600	93,300	374,900	238,100	132,800
Burlington County	467,200	26,300	58,300	199,700	117,800	65,200
Camden County	577,200	39,900	82,900	260,300	125,300	68,800
Cape May County	113,100	6,300	13,800	44,800	24,400	24,100
Cumberland County	151,500	9,900	21,700	65,400	32,500	21,900
Essex County	795,500	51,000	110,100	355,900	182,500	96,000
Gloucester County	249,100	16,100	34,700	113,600	53,600	31,100
Hudson County	548,100	36,000	75,600	244,300	124,200	68,000
Hunterdon County	113,000	6,300	14,100	50,300	30,100	12,100
Mercer County	387,000	23,500	47,400	177,600	87,500	51,000
Middlesex County	726,600	36,700	78,800	337,300	172,300	101,400
Monmouth County	391,600	30,200	69,600	240,400	152,000	99,400
Morris County	510,500	26,300	56,500	241,600	128,600	57,500
Ocean County	484,400	28,400	56,300	176,800	97,600	125,300
Passaic County	469,100	30,100	64,100	207,800	106,000	61,300
Salem County	71,000	4,600	10,200	28,400	16,600	11,100
Somerset County	261,200	13,100	29,500	121,100	64,900	32,600
Sussex County	159,600	11,300	21,600	70,800	38,400	17,600
Union County	539,700	29,500	65,000	237,300	122,400	75,600
Warren County	86,200	5,600	12,200	40,500	23,000	14,900

Notes: t) All projections are rounded to the nearest hundred persons. Numbers therefore may not add due to rounding.

Table 7 (continued).
Projected Population of New Jersey and Counties
by Age Group, 1990 through 2020.

ODEA Economic-Demographic Model (Preferred).

	July 1, 2005 Population					
	Total Population	Under 5	5 to 14	15 to 44	45 to 64	65 and over
NEW JERSEY	8,685,200	461,700	1,028,400	3,658,100	2,300,800	1,236,200
Atlantic County	272,300	13,200	30,800	115,000	74,400	38,900
Bergen County	891,900	37,500	90,200	364,800	269,600	129,800
Burlington County	494,900	25,000	57,700	195,700	140,100	73,400
Camden County	527,300	39,000	82,900	257,600	145,700	69,100
Cape May County	119,500	6,200	13,500	45,200	30,400	24,200
Cumberland County	152,000	8,900	21,000	63,400	36,200	22,600
Essex County	778,900	46,900	103,100	339,100	196,800	93,900
Gloucester County	263,500	15,800	34,800	116,300	63,700	32,800
Hudson County	528,500	33,400	69,700	227,000	134,000	64,300
Hunterdon County	121,900	6,200	14,500	54,500	33,200	13,500
Mercer County	409,700	23,900	49,900	183,100	99,600	53,100
Middlesex County	760,800	35,000	79,500	333,800	206,000	106,500
Monmouth County	611,300	28,200	65,900	236,600	173,800	106,800
Morris County	540,800	25,200	57,100	246,200	149,400	63,800
Ocean County	515,800	28,500	58,800	186,600	111,800	130,200
Passaic County	486,500	28,200	60,800	200,100	117,400	60,000
Salem County	72,100	4,400	9,700	28,000	18,500	11,400
Somerset County	273,500	12,400	29,600	118,800	78,000	34,600
Sussex County	172,900	11,200	23,400	77,000	41,200	20,200
Union County	540,900	27,000	63,300	225,900	151,900	72,800
Warren County	89,300	5,300	12,100	40,600	26,100	15,200

Notes: 1) All projections are rounded to the nearest hundred persons. Numbers therefore may not add due to rounding.

Table 7 (continued).
 Projected Population of New Jersey and Counties
 by Age Group, 1990 through 2020.

ODEA Economic-Demographic Model (Preferred).

	July 1, 2010 Population					
	Total Population	Under 5	5 to 14	15 to 44	45 to 64	65 and over
MEW JERSEY	8,895,700	454,400	983,500	3,560,200	2,580,400	1,317,300
Atlantic County	253,200	13,100	26,400	110,300	89,900	41,400
Bergen County	904,000	36,700	86,000	348,100	300,400	132,900
Burlington County	521,300	24,700	55,100	187,200	159,700	84,600
Camden County	516,700	39,400	81,200	254,600	169,100	72,300
Cap* May County	126,300	6,500	13,300	46,000	35,700	24,800
Cumberland County	149,900	8,100	18,700	59,400	39,900	23,800
Essex County	762,300	44,200	94,700	318,400	210,500	94,400
Gloucester County	277,400	16,200	34,300	117,300	72,700	35,900
Hudson County	507,300	32,400	63,600	211,700	138,100	61,500
Hunterdon County	131,000	6,300	14,400	55,900	37,900	16,400
Mercer County	429,600	24,600	51,000	186,300	110,300	57,400
Middlesex County	781,800	34,200	77,100	328,400	236,900	115,200
Monmouth County	530,600	27,600	61,400	228,400	194,000	119,100
Morris County	570,500	25,000	55,800	244,100	173,200	72,400
Ocean County	545,900	29,000	59,400	191,900	126,000	139,700
Passaic County	462,000	27,400	56,600	190,800	126,200	61,000
Salem County	73,100	4,400	9,300	27,200	20,100	12,000
Somerset County	285,400	12,300	28,800	113,800	93,100	37,400
Sussex County	185,700	11,200	23,900	79,500	46,100	25,100
Union County	540,000	25,900	58,800	211,200	171,000	73,000
Warren County	101,900	5,200	11,600	39,800	28,600	16,700

Notes: 1) All projections are rounded to the nearest hundred persons. Numbers therefore may not add due to rounding.

APPENDIX B

Projections of Population by Age, Race and Sex
from 1990 to 2000 DX Economic
Demographic Model

source:

State of New Jersey Department of labor, Division of Planning and Research, Office of Demographic and Economic Research, population projections for New Jersey and Counties: 1990 to 2020, Volume I,"*
Trenton: November 1985, pages 13 to 16

Table 5.

**Projections of Population by Age, Race, and Sex from 1990 through 2000,
by Age and Sex from 2005 through 2020.
New Jersey.**

ODEA Economic-Demographic Model (Preferred).

Age in Years	Census of April 1, 1980		
	All Races		
	Total	Male	Female
	Total	Male	Female
Total	7,364,823	3,533,012	3,831,811
0-4	463,289	237,346	225,943
5-9	508,447	259,606	248,841
10-14	605,841	308,725	297,116
15-19	670,665	341,153	329,512
20-24	614,828	301,855	312,973
25-29	574,135	278,848	295,287
30-34	563,758	270,274	293,484
35-39	479,749	230,157	249,592
40-44	400,074	193,465	206,609
45-49	394,038	189,797	204,241
50-54	432,520	207,573	224,947
55-59	430,048	203,380	226,668
60-64	367,660	170,391	197,269
65-69	303,670	133,579	170,091
70-74	227,037	93,464	133,573
75-79	157,821	59,268	98,553
80-84	98,912	32,881	66,031
85+	72,231	21,250	50,981
65+	859,771	340,442	519,329

Age in Years	Census of April 1, 1980					
	White			Non-White		
	Total	Male	Female	Total	Male	Female
	Total	Male	Female	Total	Male	Female
Total	6,310,835	3,039,484	3,271,351	1,053,988	493,528	560,460
0-4	369,266	189,779	179,487	84,023	47,567	46,456
5-9	407,861	208,728	199,134	100,586	50,878	49,707
10-14	484,291	252,716	241,575	111,550	56,009	55,541
15-19	557,102	284,642	272,460	113,563	56,511	57,052
20-24	520,698	258,713	261,985	94,120	43,142	50,988
25-29	486,041	240,026	246,015	88,094	38,822	49,272
30-34	478,051	232,746	245,305	85,707	37,528	48,179
35-39	405,833	197,189	208,645	73,916	32,868	40,947
40-44	337,888	164,651	173,238	62,186	28,814	33,371
45-49	342,082	165,858	176,224	51,956	23,939	28,017
50-54	386,481	186,438	200,043	46,039	21,135	24,904
55-59	390,747	185,389	205,358	39,301	17,991	21,310
60-64	337,394	157,029	180,365	30,326	13,362	16,964
65-69	278,242	123,385	155,857	24,428	10,194	14,234
70-74	210,087	86,591	123,496	16,950	6,873	10,077
75-79	146,597	54,896	91,701	11,324	4,372	6,952
80-84	83,196	30,785	52,402	5,716	2,086	3,629
85+	68,037	19,814	48,123	4,184	1,336	2,858
65+	797,160	315,580	481,580	62,611	24,862	37,749

Notes: 1) All projection* are rounded to the nearest hundred persons Numbers therefore may not add due to rounding.

2) Census figures do not include an upward revision of IBS persons in Essex County. The corrected totals were BSMOfc for Essex County and 7,365,011 for New Jersey. As the revision was not distributed by age, sex

Table 5 (continued).

Projections of Population by Age, Race, and Sex from 1990 through 2000,
by Age and Sex from 2005 through 2020.
New Jersey.

ODEA Economic-Demographic Model (Preferred).

Age in Years	Projections to July 1, 1990		
	All Races		
	Total	Male	Female
	Total	Male	Female
Total	7,842,300	3,762,300	4,080,100
0-4	505,450	258,370	247,080
5-9	458,010	248,410	238,600
10-14	478,820	244,610	234,210
15-19	529,410	266,680	262,750
20-24	606,690	300,770	305,920
25-29	669,240	335,650	333,590
30-34	676,850	339,460	337,890
35-39	633,280	314,520	318,770
40-44	581,440	280,700	290,740
45-49	475,360	228,500	246,860
50-54	383,730	184,360	199,370
55-59	365,200	172,620	192,570
60-64	383,430	177,050	206,370
65-69	353,220	184,040	199,180
70-74	280,630	118,030	165,600
75-79	204,300	75,140	129,160
80-84	125,990	40,050	85,930
85+	101,200	25,210	75,990
65+	1,065,330	409,480	655,860

Age in Years	Projections to July 1, 1990					
	White			Non-White		
	Total	Male	Female	Total	Male	Female
	Total	Male	Female	Total	Male	Female
Total	6,372,800	3,076,500	3,296,100	1,469,600	685,600	784,000
0-4	383,530	196,610	186,920	121,920	61,760	60,160
5-9	375,580	192,320	183,260	112,430	57,090	55,340
10-14	369,900	186,670	177,220	114,920	57,840	56,980
15-19	407,450	207,670	199,780	121,950	58,980	62,970
20-24	474,770	240,520	234,250	131,920	60,260	71,670
25-29	523,330	268,290	255,040	145,920	67,370	78,550
30-34	543,900	279,680	264,240	132,960	59,800	73,150
35-39	510,370	258,580	251,780	122,920	55,840	66,980
40-44	472,890	230,480	242,510	108,460	50,220	58,240
45-49	390,100	188,490	201,610	85,260	40,000	45,250
50-54	316,040	152,390	163,650	67,690	31,970	35,720
55-59	310,280	147,720	162,560	54,920	24,900	30,010
60-64	335,530	156,110	179,520	47,800	20,950	26,850
65-69	315,490	138,120	177,370	37,730	15,320	21,810
70-74	253,580	104,350	149,230	27,050	10,690	16,370
75-79	186,220	68,520	117,700	18,080	6,620	11,460
80-84	116,210	36,880	79,320	9,780	3,170	6,610
85+	93,290	23,170	70,120	7,910	2,040	5,870
65+	854,780	371,040	593,740	100,550	38,440	62,110

Notes: 1) All projections are rounded to the nearest hundred persons. Numbers therefore may not add due to rounding.

Table 5 (continued).

Projections of Population by Age, Race, and Sex from 1990 through 2000,
by Age and Sex from 2005 through 2020.
New Jersey.

ODEA Economic-Demographic Model {Preferred}.

Age in Years	Projections to July 1, 1995		
	All Races		
	Total	Male	Female
Total	5,154,000	3,920,800	4,233,200
0-4	807,430	299,330	248,110
5-9	516,380	263,710	252,670
10-14	498,650	254,420	244,230
15-19	497,890	252,230	245,660
20-24	526,940	262,320	264,630
25-29	621,410	306,650	314,750
30-34	736,680	375,830	360,850
35-39	698,670	352,220	346,450
40-44	637,700	317,630	320,070
45-49	576,950	278,620	298,330
50-54	466,680	223,300	243,380
55-59	370,440	176,080	194,360
60-64	344,570	159,130	185,450
65-69	345,670	152,480	193,190
70-74	304,280	123,980	180,300
75-79	227,660	84,640	143,030
80-84	150,370	47,760	102,610
85+	125,620	30,440	95,180
65+	1,153,600	439,290	714,320

Age in Years	Projections to July 1, 1995					
	White			Non-White		
	Total	Male	Female	Total	Male	Female
Total	6,430,300	3,113,700	3,316,600	1,723,800	807,100	916,600
0-4	366,290	187,840	178,450	141,140	71,480	69,650
5-9	384,480	196,800	187,670	131,900	66,910	64,990
10-14	373,400	191,070	182,320	125,250	63,350	61,900
15-19	373,280	191,610	182,370	123,910	60,620	63,290
20-24	396,920	202,500	194,420	130,020	59,820	70,200
25-29	467,680	238,360	229,310	153,740	68,300	85,440
30-34	558,590	292,650	265,940	178,090	83,180	94,910
35-39	545,580	281,700	263,880	153,090	70,520	82,570
40-44	503,390	254,540	248,850	134,310	63,090	71,220
45-49	463,210	224,880	238,330	112,740	53,740	60,000
50-54	378,670	181,840	196,830	88,010	41,460	46,550
55-59	301,390	143,820	157,580	69,050	32,270	36,780
60-64	289,090	134,600	154,500	55,480	24,530	30,950
65-69	299,780	133,220	166,560	45,890	19,260	26,640
70-74	270,410	110,400	160,010	33,880	13,580	20,300
75-79	206,340	76,410	128,930	22,320	8,230	14,100
80-84	137,100	43,560	93,540	13,260	4,180	9,070
85+	114,960	27,550	87,110	10,650	2,580	8,070
65+	1,027,890	391,450	636,150	126,010	47,840	78,170

Notes: 1) AM projections are rounded to the nearest hundred persons. Numbers therefore may not add due to rounding.

Table 5 (continued).

Projections of Population by Age, Race, and Sex from 1990 through 2000,
by Age and Sex from 2005 through 2020.
New Jersey.

ODEA Economic-Demographic Model (Preferred).

Age in Years	Projections to July 1, 2000		
	All Races		
	Total	Male	Female
Total	8,480,300	4,072,300	4,378,000
0-4	484,760	247,680	237,080
5-9	519,550	255,310	254,240
10-14	527,480	259,020	258,460
15-19	517,480	252,750	254,740
20-24	495,820	249,480	246,350
25-29	538,550	265,960	272,590
30-34	686,800	342,890	343,810
35-39	765,180	392,140	373,040
40-44	704,340	355,900	348,440
45-49	633,670	315,610	318,060
50-54	567,560	272,860	294,600
55-59	451,740	214,030	237,710
60-64	352,110	164,040	188,060
65-69	314,170	139,370	174,800
70-74	302,590	125,660	176,920
75-79	252,720	94,120	158,600
80-84	174,280	56,430	117,840
85+	161,460	38,840	122,620
65+	1,205,210	484,430	750,780

Age in Years	Projections to July 1, 2000					
	White			Non-White		
	Total	Male	Female	Total	Male	Female
Total	6,474,600	3,143,000	3,331,700	1,975,600	929,300	1,046,300
0-4	334,350	171,500	162,840	150,420	76,170	74,240
5-9	368,420	188,690	179,730	181,130	76,620	74,510
10-14	383,080	196,040	187,050	144,390	72,980	71,410
15-19	384,680	186,900	187,780	132,800	65,840	66,960
20-24	366,010	188,140	177,870	129,810	61,330	68,480
25-29	390,160	189,370	190,790	148,390	66,590	81,800
30-34	502,380	260,380	242,000	184,420	82,610	101,810
35-39	563,530	296,080	267,450	201,650	96,060	105,600
40-44	539,480	277,990	261,420	164,870	77,910	86,950
45-49	494,370	249,130	245,240	139,300	66,480	72,820
50-54	451,200	217,810	233,390	116,360	55,150	61,210
55-59	363,000	172,640	190,350	88,740	41,380	47,360
60-64	283,210	132,830	150,680	68,900	31,520	37,380
65-69	261,230	116,820	144,410	52,940	22,550	30,380
70-74	261,310	109,080	152,120	41,380	18,570	24,810
75-79	224,390	83,470	140,920	28,330	10,650	17,680
80-84	157,300	50,880	106,320	16,870	5,450	11,530
85+	146,620	35,390	111,230	14,840	3,450	11,390
65+	1,080,760	385,760	654,990	154,460	58,670	85,790

Notes: 1) All projections are rounded to the nearest hundred persons. Numbers therefore may not add due to rounding.

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The Bureau of ~~Bnnrvgirff~~- Analysis, part of the United States Department of ~~CViiHife'ioe~~. Is responsible for producing projections of "economic activity and population to be used by the Department and other Federal and State agencies. The current projections are for the years 1990, 1995, 2000, 2005, 2015 and 2035. These economic and population forecasts are referred to as the "CHESS" projections ~~bprnusp~~ the forecasts were first prepared fcy the pf fice of Business Economics and the Economic feresearch Service of the Department of Agriculture*

* Regions

The Bureau of Economic Analysis prepares a national population projection as well as projections for states and Census Metropolitan Areas. In addition, BEA has divided the United States into 183 Economic Areas for analysis.

* Forecasts

The current OBERS forecast was prepared in 1985. This projection was based on the 1984 National Projections of the Bureau of the Census. BEA reviewed the asstmptions that made up the Bureau of Census forecast and constructed the OEERS forecast by selecting the mid-range alternatives for the following factors:

1. Future in-migration with respect to age, race, and sex;
2. Age, Race, and Sex specific mortality rates; and
3. Age and Race specific fertility rates.

Specifically, the OBERS model makes the following assumptions. First, the model aBraimes that the completed fertility rate would grow to 1,960 births per 1000 women by the year 2005, and then decline to 1,900 births by the year 2050. Life expectancy is expected to increase from 74.3 years in 1982 to 79.6 years in 2050. Finally, net iinwnigration has been assumed at 450,000 per year,

The following table displays the EEA population projections for the nation and the states of Mew York, New Jersey and Pennsylvania.

Bureau of Economic Analysis Population Projection					
	1990	1995	2000	2005	2010
United States	249,203.0	259,085.0	267,464.0	275,177.0	282,541.5
New York	18,261.6	18,687.7	18,970.5	19,174.4	19,438.5
New Jersey	7,943.4	8,276.1	8,562.1	8,826.7	9,073.3
Pennsylvania	12,049.7	12,069.7	12,023.7	11,968.6	12,074.3
All Numbers in Thousands (,000)					

Year 2010 interpolated from BEA 2005 and BEA 2015 population projection

Source: Bureau Of Economic Analysis
1985 OBERS BEA Regional Projections

* Comparison of Alternative Forecasts

The following table presents the BEA population projection for New Jersey as well as the other state-wide forecasts reported elsewhere in this report.

It should be noted that the EEA forecast for the year 2010 was generated by OSP by interpolating the BEA forecasts for 2005 and 2015.

**STATEWIDE POPULATION ESTIMATES
1995 TO 2010**

<u>Source</u>	1995	2000	2005	2010
Woods and Poole	8,545,460	8,983,740	9,400,420	9,709,670
BEA	8,276,100	8,562,100	8,826,700	9,134,900
Census Bureau	8,252,000	8,546,000	8,779,000	8,950,000
NJ DOT (RT. 1)	8,044,930	8,419,540	8,671,690	8,932,840
NJ DOL Eco. Demo.	8,154,000	8,450,300	8,685,200	8,895,700
DOL Historic Mig.	7,902,100	8,051,100	8,117,800	8,124,000

Source: OSP, US Dept of Commerce, BEA 1985

In general it can be seen that the BEA forecast tends to agree with the Census Bureau forecast from which it was derived. All of the forecasts foresee modest growth in New Jersey's population through the year 2010.

for the year 2010, BEA forecasts a total state population second only to the floods and Poole projection. Compared to the Census forecast, the BEA projection rail 8 for 180,000 more State residents. The BEA growth rate of 10.4 percent over this projected fifteen year period (1995 to 2010) is slightly higher than that predicted by the DOL Economic Development model (9.1 percent), and much lower than the Woods and Foole projected 15 year growth rate of 13.6%.

All of the forecasts foresee a slowing of the growth rate as the year 2010 approaches. As displayed in the following table, the most stable growth rate is produced from the BEA population projection. The decennial rate of 9.4 percent between 1985 and 1995 slows to a rate of 6.7 percent between the years 2000 and 2010. The BEA population projection produces the highest growth rate (3.5 percent) between the years 2005 and 2010.

POPULATION INCREASES 1985 TO 2010

Forecast	1995		2000		2005		2010	
	Increase	%	Increase	%	Increase	%	Increase	%
BEA	332,900	9.4	286,000	3.7	264,600	3.1	5yr. 308,200 10yr. 572,800	3.5 6.7
Census	689,518	9.1	294,000	3.6	233,000	2.7	5yr. 171,000 10yr. 404,000	1.9 4.7
DOL Eco- Demo	591,518	7.8	296,300	3.6	234,900	2.8	5yr. 210,500 10yr. 445,400	2.4 5.3
NJ DOT (RT.1)	482,448	6.4	356,610	4.5	261,150	3.1	5yr. 261,150 10yr. 522,300	3.0 6.2
DOL HIST. MIG	339,618	4.5	149,000	1.9	66,700	.8	5yr. 6,200 10yr. 72,900	.08 .9
Woods & Poole	982,979	13.	438,280	5.1	416,680	4.6	5yr. 309,250 10yr. 725,930	3.3 8.1

Note: 1995 Increase and % are between 1995 and 1985 NJ resident population of 7,562,482 persons.

following table compares the growth predicted in the BEA forecast to that projected by the hypothetical Zero Migration model prepared by KJDQL. The category "Diff 0 Mig" displays the numerical difference between the forecast and the population produced by the Zero Migration model. The category "Diff prior period" displays the amount of growth during the five year interval, projected by the Zero Migration model. This analysis is done to identify growth due to natural increase and growth due to in-migration of new residents. For example, between 1995 and 2000, the Census Bureau forecasts a population increase of 294,000 persons (8,546,000 - 8,252,000). The year 2000 Census Bureau estimate is 657,300 persons higher than is the Zero Migration population forecast for the same year. In addition, since the five year Census growth estimate is higher than the 209,000 increase resulting from the Zero Migration model, one might assume that the Census Bureau projects substantial in-migration prior to 1995 and that in-migration is continuing in the year 2000.

Compared with the other models, the BEA projection is consistent in projecting net in-migration to New Jersey. The BEA projection is second only to Woods and Poole in the amount of in-migration projected.

**ANALYSIS OF FORECASTED POPULATION MIGRATION
1995 TO 2010**

	1995	2000	2005	2010
Census Bureau	8,252,000	8,546,000	8,779,000	8,950,000
Diff 0 Mig	448,300	657,300	827,700	1,069,600
Diff prior period		209,000	618,700	450,900
BEA	8,276,100	8,562,100	8,826,700	9,134,900
Diff 0 Mig	472,400	673,400	920,400	1,254,500
Diff prior period		201,000	247,000	334,100
Woods and Poole	8,545,460	8,983,740	9,400,420	9,709,670
Diff 0 Mig	741,760	1,095,040	1,494,120	1,829,270
Diff prior period		353,280	399,080	335,150

Sources: BEA 1985 OHERS BEA Regional Projections; Woods & Poole Economics, 1987 State Profiles, NY/NJ; NJDOL Population Projections for New Jersey and Counties 1990 to 2010